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the top job?

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World Business Newspaper <http://www.FT.com>

THURSDAY JUNE 12 1997

Two Nordic stock exchanges to merge systems

The Swedish and Danish stock exchanges will announce plans to merge their trading systems and create an integrated equities trading market, the first such tie-up among European bourses. The tie-up could mark the first step towards the creation of a pan-Nordic share market, embracing Oslo and Helsinki. Page 15

EU appeals against banana rulings: The European Union appealed against a World Trade Organisation ruling that its banana import regime discriminated against US and Latin American producers. Page 8

UN offers plan to eliminate poverty: A plan to eliminate extreme poverty by early next century is put forward today by the United Nations Development Programme. Page 14; Price of ending world poverty, Page 6; Editorial Comment, Page 13

Germany accepts EU jobs chapter: Bonn said it would back an employment chapter in the revised Maastricht treaty, but it would not support costly job creation programmes operated from Brussels. Page 2

Sinn Féin given last chance for ceasefire:

The UK government gave Sinn Féin a final chance to declare a ceasefire, warning that it wanted a constitutional settlement for Northern Ireland agreed by next May. Northern Ireland secretary Marjorie Mowlem (left) said multi-party negotiations, which resumed last week, were in danger of "running into the sands".

With despondency on both sides of the sectarian divide ahead of the traditional summer marching season, UK ministers are becoming exasperated at the lack of movement by the IRA and Sinn Féin. Page 9

PacificCorp bids for Energy Group: Directors of Energy Group, the Anglo-American energy company recently demerged from Hanson, will meet today to consider a bid from US utility PacificCorp. Page 15; Lex, Page 14

US tobacco talks stall: Talks in the US tobacco war appeared to stall amid disagreements between the industry and anti-tobacco lawyers about how much power the federal government should have to regulate the nicotine content of cigarettes. Page 5

Doubts grow over Malaysia dam: Doubts grew over the future of the Bakun dam in Malaysia after confirmation that a rights issue to finance it was a failure, with 83 per cent of the shares unsubscribed. Page 15

Global phone charges set to tumble: New technology and global competition should speed the fall in international telephone costs, said Pekka Tadjana, secretary general of the International Telecommunication Union. Page 8

Czech bank negotiates cheap loans: The Czech National Bank has secured a \$1.5bn standby facility at a cheaper rate than any other borrower from eastern Europe, reflecting fierce competition for emerging market loans. Page 15

Turkish army warns Islamists: Turkey's armed forces warned the country's Islamic politicians that they were ready to act to protect the republic from religious extremism. Page 2

Eurostar stonewalled questioned: British police were questioning four stowaways, believed to be Russian, found beneath the floor of a Eurostar train from Paris.

Norwegians seek UK soccer club stake: Two Norwegian businessmen are seeking a stake in Wimbledon football club, near London, in a deal that could transform the finances of the UK Premier League club. Page 15

Sydney Olympics look for light relief: The organisers of the Sydney 2000 Olympics want to put Australia's clocks forward during the Games to provide an extra hour of daylight for competition late in the day.

French turn from wine to water: The French are increasingly spurning wine - even their own - and choosing water, said Inra, France's agricultural research institute. Page 14

FT.com: The FT web site provides online news, comment and analysis at <http://www.FT.com>

STOCK MARKET INDICES	
New York: S&P 500	7588.34 (+29.07)
Dow Jones Ind. Av.	5988.34 (+29.07)
NASDAQ Composite	1386.21 (+5.48)
Europe and Far East	
FTSE 100	2956.19 (+32.01)
DAX	3677.45 (+12.42)
FTSE 100	2956.19 (+32.01)
Nikkei	20,288.93 (+242.62)
US LUNCHTIME RATES	
Federal Funds	5 1/4%
3-mth Treasury Bill	4.975%
Long Bond	6 7/8%
Yield	5.810%
OTHER RATES	
UK 3-mth interbank	5 1/4% (swap)
US 10 yr bill	101 (100.2)
France 10 yr bill	98.37 (98.25)
Germany 10 yr bill	101.50 (101.84)
Japan 10 yr bill	104.140 (103.565)
NORTH SEA OIL (Argus)	
Brent Dated	\$17.94 (16.95)

Clinton pays dearly for foreign policy pact

By Bruce Clark in Washington

The Republican-led US Congress is extracting a heavy price from President Bill Clinton's administration for its co-operation in foreign policy. The House of Representatives was yesterday in the final stages of passing an international affairs bill, obliging the White House to merge various US agencies that deal with the outside world. In the Senate, Republicans aim to impose strict conditions for agreeing to pay off US arrears to the United Nations and renew co-operation with the

world body. Republicans and Democrats in the Senate have agreed on a proposal to pay off \$818m to the UN over three years, provided US dues are reduced and UN accounts subjected to closer inspection. While Republican leaders have softened their demand that payment be stretched over five years, they have scored a tactical victory by forcing the White House to swallow its objection to the principle of legally imposed conditions or "benchmarks". The payment falls well short of the \$1.3bn the UN secretar-

iat thinks Washington owes. But Mr Kofi Annan, the secretary-general, was said to be "encouraged by a development which the US administration regards as a breakthrough". The international affairs bill would cover USAID, which disburses foreign assistance, the US Information Agency and the Arms Control and Disarmament Agency, all facing subordination to, or merger with, the State Department. Mr Clinton's administration says the House proposal goes too far, too fast and that the House is trying to "micro-manage" a streamlining process

that requires a flexible approach. But the White House, as part of an unspoken deal that helped secure the ratification of the Chemical Weapons Convention, has fully accepted the principle that some agencies do need to be merged. While previous attempts by legislators to foist State Department reform on the White House have run into a presidential veto, congressional observers say there is a good chance of a formula being agreed this year. Mr Clinton's willingness to give some ground to its Republican

critics reflects the huge political challenges his foreign policy faces. These include the approval in the next few weeks of another year's extension in China's "most favoured nation" trading status - and the administration's bid for "fast-track" authority to negotiate new trade deals in Latin America, which has been postponed until autumn. But despite the spirit of compromise in some areas, the White House looked certain to block a raft of amendments to the international affairs bill, many of them reflecting the

concerns of ethnic and religious groups. One amendment - the subject of recurring clashes between Congress and the White House - would renege the Reagan administration's policy of denying family planning assistance to agencies connected, even indirectly, with abortion. Congressman Douglas Bereuter, Republican chairman of the House Asia subcommittee, said foreign policy was increasingly being driven by ethnic lobbies active in lawmakers' home districts.

World poverty plan, Page 14

Santer looks for EU deal

Compromise on jobs may help solve setback over stability pact

By Lionel Barber and Neil Buckley in Brussels

Mr Jacques Santer, president of the European Commission, will seek today to secure a deal allowing the new French government to approve the budget stability pact that would underpin European monetary union, in exchange for a renewed EU-wide commitment to growth and job creation.

France's left-wing government yesterday underlined its determination for success at next week's Amsterdam summit, whose centrepiece is a new treaty to prepare the 15-member union for enlargement. But it left open the details of a deal on the German-inspired stability pact to enforce budgetary discipline in the future euro zone.

Mr Dominique Strauss-Kahn, the French industry and finance minister, said yesterday: "We are clearly going to find a solution. No one wants to drag things out for the sake of it." But he added: "The question is to know how we can obtain the balance we are seeking."

Mr Santer will hold talks with both Mr Jacques Chirac, the French president, and Mr Lionel Jospin, the Socialist prime minister. He will stress that there can be no renegotiation of the stability pact, which is to be introduced alongside Emu on January 1, 1999.

Mr Santer will hold out the prospect of a separate EU political declaration on employment, and growth based on articles 102a and 103 of the



French industry and finance minister Dominique Strauss-Kahn after yesterday's weekly cabinet meeting

Maastricht treaty which recognises the need for EU governments to co-ordinate their economic policies. In a further sign of possible trouble before Amsterdam, senior EU diplomats in Brussels said there were still serious obstacles to reaching agreement in the Maastricht treaty review conference, notably on reforming the Union's institutions and preserving the balance of power between small and large member states. The difficulties, which have been overshadowed by this week's clash between the government in Paris and the rest of the EU over the stability pact, fuelled reports that a second summit may be necessary to wrap up the treaty. In Paris yesterday, one day

after Mr Chirac weighed in on behalf of a deal in Amsterdam, the government signalled it was ready to consider a compromise which focused on job creation and growth. The German government threw its weight behind the compromise, saying it was willing to support an employment chapter in the revised Maastricht treaty. Mr Helmut Kohl, the chancellor, is expected to drive home the message at tomorrow's Franco-German summit in Potsdam. Both Mr Chirac and Mr Jospin will attend the summit, which should offer important clues about the left-wing and right-wing "cohabitation" in the French government, and the margin for manoeuvre of the German government,

where Mr Kohl is under pressure on monetary union. Meanwhile, it emerged that the British government was willing to strike a deal on deeper EU integration in justice, immigration and home affairs policies. Assuming that Britain received a watertight guarantee that it would retain control over its borders, the government was said to be willing to let other countries move asylum, visa and immigration policy into areas of EU-wide responsibility.

Muddy waters, Page 2
Editorial Comment and Observer, Page 13
Lex, Page 14

News Corp abandons its US satellite ambitions

By Christopher Parkes in Los Angeles

Mr Rupert Murdoch has abandoned his bid to compete in the fast-growing US satellite television industry and agreed to sell his fledgling ASkyB operation to his avowed enemies in the cable business.

The surprise retreat marks a setback for his News Corporation media group, which pioneered satellite broadcasting in the UK and has interests in similar projects in Japan and Latin America.

It follows the acrimonious collapse last month of a deal to merge ASkyB into EchoStar which has since prompted a \$50m breach of contract lawsuit against News Corp.

In return for its two high-power satellites and a federal licence purchased last year for a record \$682m, News Corp will take a non-voting 30 per cent stake, valued at \$1.1bn, in PrimeStar, the second-biggest US satellite operator. News Corp said the deal was worth the equivalent of its investment in ASkyB so far plus interest.

PrimeStar, a limited partnership run by a consortium

Continued on Page 14
Lex, Page 14

Japan's current account surplus rattles markets

By William Dawkins in Tokyo

Japan's politically contentious current account surplus almost doubled in the year to April, adding to trade tension between Tokyo and Washington before next week's Group of Seven summit.

The current account balance expanded by 92.7 per cent from the same month last year to ¥1,082bn (\$8.41bn), the finance ministry announced yesterday. The rise was in line with the expectations of many economists but US officials expressed concern about the increase.

This rattled the foreign exchange markets, which pushed the yen to a seven-month high of ¥110.97 to the dollar in Tokyo.

The Japanese currency has risen nearly 12 per cent against the dollar since May. The Nikkei 225 share index

dropped 1.18 per cent yesterday. Mr Lawrence Summers, US deputy treasury secretary, warned that a rising surplus might "hurt global growth and fuel protectionism". Mr Hiroshi Mitsuoka, Japan's finance minister, yesterday warned against exchange rate instability and said the Japanese authorities would take appropriate action. Import growth in April was constrained by the drag on private spending created by a rise in Japanese consumption tax on April 1, while exports continued to surge, helped by a relatively weak yen. Accordingly, several private sector economists expect the surplus to grow steeply in the next few months, heading for a rise of about 10 per cent for the whole of this year, as Japanese domestic demand recovers from the tax shock. Japanese ministers will now

be faced with the uncomfortable task of trying to persuade their G7 partners at the Denver summit that Tokyo is serious about stimulating domestic demand through economic deregulation. Export growth precipitated bitter trade rows in the early 1990s. "A few harsh words will be spoken in Japan's direction in Denver," said Mr Richard Jaram, chief economist for ING Barings in Tokyo. "Domestic demand is still weak and imports have lost competitiveness." In yesterday's data, exports rose by 21.5 per cent, twice as fast as imports' 9.3 per cent increase. Private-sector economists said the April increase in the surplus was partly a freak backlash against an unusual 17 per cent decline in the surplus in March. They

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NEWS: EUROPE

Germans drop objection to jobs chapter in EU treaty

By Peter Norman in Bonn

The German government said yesterday it would back the inclusion of an employment chapter in the revised Maastricht treaty. However, it would not support a job creation programme operated from Brussels.

While signalling that Bonn would no longer reject the employment chapter at next week's European Union summit in Amsterdam, Mr Klaus Kinkel, the foreign minister, made it clear that Germany would move only a small way towards giving employment creation a bigger role in EU affairs.

"We all want to create more jobs," he said, referring to the EU's 18m unemployed. "But it can't be done with articles in treaties. Better European co-ordination of national measures was the way forward," he told the Bundestag, the lower house of parliament.

Despite the qualifications,

Mr Kinkel's comments marked a determined effort by Germany to smooth relations with the new French government. The latter caused alarm on Monday when it appeared to question the Bonn-inspired stability pact for ensuring fiscal discipline in Europe's future single currency area.

"As so often, Franco-German solidarity will be decisive in the final round of the conference," Mr Kinkel said. He expressed confidence in France's support for Europe and the stability pact, and its determination to launch the euro on schedule on January 1, 1999 in compliance with the Maastricht treaty criteria.

A survey by the respected Aliensbach opinion research institute suggested yesterday that more than half the German people now expect the single currency will start punctually.

Aliensbach reported that 54 per cent of respondents

expected Emu from 1999 compared with 46 per cent in November. However, according to the poll, published in the Frankfurt Allgemeine Zeitung newspaper, 48 per cent forecast that the single currency would bring higher inflation. Only 7 per cent expected lower inflation and 35 per cent feared higher unemployment against just 10 per cent who expected the euro to create jobs.

In his speech, Mr Kinkel cautioned that Germany would not achieve all its goals in Amsterdam. Although "a good conclusion" was in reach, he warned against "too high expectations" that support would be forthcoming for subjects of specific German interest. These included the sought-after guarantee for the status of public sector banks in European law.

He underlined Germany's determination to have more majority voting in the EU and to take EU foreign and

security policy "out of the straitjacket of unanimity". On the planned reform of the Union's institutions, he said it was "decisive" for Germany to limit the number of EU commissioners in future to 20 and to ensure that votes passed with a qualified majority represented about 60 per cent of the EU's population.

Mr Kinkel made it clear that Germany would press for a qualified majority vote to launch the process of flexible co-operation. This is the procedure it is developing with France which will allow groups of countries interested in greater integration to push ahead without being blocked by others.

While backing the Dutch presidency's proposals for a far-reaching "communitisation" of law and order policies, Mr Kinkel expressed understanding for UK and Irish demands to maintain their border controls. Editorial comment, Page 13



Police and firefighters demonstrated in Bonn yesterday against a public sector squeeze planned in order to help Germany qualify for European monetary union

EUROPEAN NEWS DIGEST

Showdown on Russian budget

Russia's parliament yesterday chose to postpone a vote on government plans to slash spending this year, in a move which could leave the country without a realistic budget until autumn. Kremlin officials have warned that the legislature could be dissolved if it broke for its summer recess later this month without backing the revised budget. In response the Communists, who dominate the parliament, have warned they may call a vote of confidence in the government.

The showdown has been triggered by a tussle between the reformist cabinet and the left-leaning parliament over an austere mini-budget the government has proposed to offset a 35 per cent shortfall in tax collection. Although the government is already cutting spending without the legislature's approval, international lenders are pressing the cabinet to win parliament's backing as part of efforts to entrench Russia's shaky democratic structures.

Getting the legislature behind the spending cuts would also help deflect popular anger at the government's latest round of belt tightening. However, legislators, who were ejected by the government to approve the 1997 budget only a few months ago, are furious at being asked to accept another version now. They are also unwilling to share blame for the sharp curtailment in state spending.

Christina Freedland, Moscow

Cypriot leaders agree to talks

Leaders of Cyprus's Greek and Turkish communities will meet in New York on July 9 in their first encounter for nearly three years to try to break the deadlock in the long-standing dispute dividing the island, the United Nations said yesterday.

Cypriot President Glafcos Clerides and Turkish Cypriot leader Rauf Denktash said they would accept an invitation from Mr Kofi Annan, UN secretary-general, although the Greek Cypriot side is concerned that the Turkish Cypriots have not shifted their position in the dispute. For his part, Mr Denktash said: "This meeting is not aimed at reaching an immediate solution, but it is a beginning."

Reuters, Nikosia

Sweden pulls plug on N-plant

The shutdown of Sweden's nuclear power industry is to start next year, after parliament voted yesterday to close two reactors between 1998 and 2001. The outcome had been expected, following an agreement earlier this year between the Social Democratic government and the pro-green Centre and Left parties. A nine-hour debate ended in a comfortable majority in favour of closing the reactors at Barseback on Sweden's west coast. Nuclear power accounts for half Sweden's electricity needs.

Talks are in progress with Sydkraft, the listed power generator which runs the Barseback plant. It is demanding compensation for loss of generating capacity and has raised doubts about the government's target of closing the plant before general elections in September next year. The Federation of Swedish Industries, which opposes the shutdown plan, puts the cost of closing Barseback at SKr30bn (\$3.8bn). Government estimates are considerably lower.

Greg McIner, Stockholm

Bulgaria names bank chief

The Bulgarian parliament yesterday appointed Mr Svetoslav Gavrilski as central bank governor. He will be responsible for introducing next month a currency board monetary system backed by the International Monetary Fund. The 49-year-old governor was finance minister in the caretaker government which restored economic confidence earlier this year and is seen as a non-partisan expert who helped negotiate a \$650m IMF loan last March.

Mr Gavrilski was appointed under a new central bank law which paves the way for a currency board system designed to restore confidence in the lev and the banking system and to stabilise the economy. The lev will be tied to the D-Mark and the government will lose powers to subsidise the budget or bail out loss-making enterprises. The money supply will be tied to the level of foreign exchange reserves and the former central bank's function as lender of last resort will be limited to three-month loans to commercial banks whose plight poses a risk to the banking sector.

Theodor Troen, Sofia

More Nazi-era funds found

Investigators seeking Jewish assets lost during the Nazi era have been told that more than 200 additional accounts possibly belonging to Holocaust victims have been found in Swiss banks. The accounts are worth about \$8m.

Mr Alan Steinberg, executive director of the World Jewish Congress, said an international committee of investigators, led by Mr Paul Volcker, former US Federal Reserve chairman, was told about the discovery last week during a meeting in Jerusalem.

Swiss bank officials originally believed they had found 775 accounts holding SFR37.8m (\$26m) in assets of Holocaust victims. Mr Volcker said last year that the banks had found more accounts, increasing the total unclaimed value by about 10 per cent. A full examination has yet to be announced, but an initial check of 51 accounts found that only six, containing SFR11,000, belonged to Holocaust victims.

AP, Washington

Juppé quits party leadership

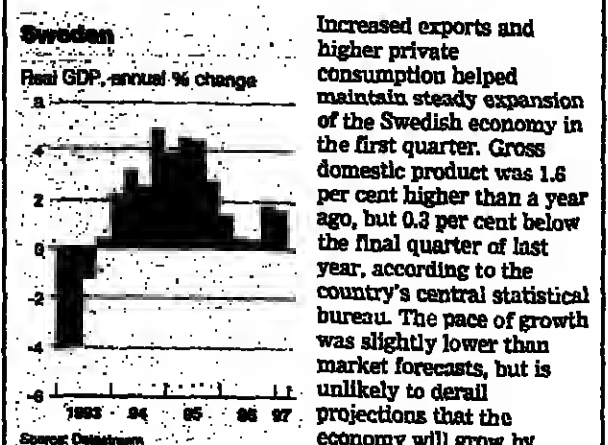
Mr Alain Juppé, the French prime minister swept from power by a leftwing victory in the recent parliamentary elections, announced yesterday he would not seek re-election as leader of France's Gaullist RPR party.

His decision clears the way for Mr Philippe Séguin, former National Assembly speaker, to take over as leader of the conservative-minded party, founded by President Jacques Chirac.

Reuters, Paris

ECONOMIC WATCH

Steady growth for Sweden



Increased exports and higher private consumption helped maintain steady expansion of the Swedish economy in the first quarter. Gross domestic product was 1.6 per cent higher than a year ago, but 0.3 per cent below the final quarter of last year, according to the country's central statistical bureau. The pace of growth was slightly lower than market forecasts, but is unlikely to derail projections that the economy will grow by about 2.5 per cent this year. The weak krona has helped power growth in exports, which were 7 per cent higher than a year ago, comfortably outstripping a 4.3 per cent jump in imports. Private consumption climbed 0.9 per cent.

However, industrial investment fell 5.7 per cent, offering little hope of a significant fall in unemployment.

Christopher Brown-Humes, Stockholm

■ Slovak real GDP growth slowed in the first quarter of 1997 to 5.1 per cent year-on-year, after a 7.3 per cent rate for the same period in 1996.

UK muddies the waters over its 'opt-out'

By Robert Taylor, Employment Editor, in London

The UK government and the European Union headed for a possible confrontation over employment legislation yesterday as it emerged that Mr Tony Blair, the British prime minister, wants a two-year exemption from measures passed under the social chapter after the UK has signed it.

Britain says that when its opt-out from the chapter comes to an end, probably in 1999, it should be allowed an exemption of at least two years from the two regula-

tions already in existence and from any further measures passed between now and the expiry of the opt-out.

If the demand is accepted at next week's EU summit in Amsterdam, it will mean that no social chapter regulation would come into force in Britain until the run-up to the next general election in 2002.

In particular, the UK wants to be able to wait at least until 2001 before implementing the two existing measures on works councils and unpaid parental leave. "What the UK wants is to keep its opt-out for four more years, and this is

unacceptable," said a senior EU official last night.

The UK government is also demanding full participation rights in all discussions in the social chapter. It accepts it cannot vote on measures that other EU states want to process through the social chapter, but it wants to be active in the debates.

But many in the European Commission and some member states believe Britain may seek to influence the outcome of social chapter discussions in a negative way by trying to block measures it dislikes. "The UK wants to exercise a

de facto authority, and at the same time enjoy its continuing social chapter opt-out for the time being," said an EU official.

Mr Margaret Beckett, the trade and industry secretary, and Mr David Blunkett, the education and employment secretary, have assured Mr Padraig Flynn, the EU's social affairs commissioner, that the UK government wants to sign the social chapter as soon as legally and technically possible.

The Commission believes it may take up to two years for the full process to be completed as every member state will have to ratify

the treaty, after the Amsterdam summit, before the UK can be within the social chapter.

Mr Flynn favoured a "fast track" approach through a "mini-treaty" to be signed by the end of the year solely on the UK opt-out issue. But this has been opposed by Italy, France, Belgium, Denmark and the Netherlands.

However, many in the Commission remain confused about the British attitude to the existing social affairs agenda. "We are baffled about what London really wants. We are getting mixed messages," said one official.

Turkish army piles pressure on Islamists

By Kelly Couturier in Ankara

The Turkish armed forces turned the screws on the country's Islamist politicians yesterday by warning that they would use force if necessary to protect the secular republic from Islamic extremism.

Speaking at general staff headquarters, Major General Fevzi Turkeri claimed that subversive activity aimed at transforming Turkey into an Islamic state had flourished under the year-old government of the Islamist Mr Necmettin Erbakan.

Gen Turkeri, chief of intelligence in the general staff, said that the growing subversive movement included about 30 groups "that are likely to engage in terrorist activities". He pointed to a surge of Islamist sects, schools and media across the country as further evidence of an emerging Islamist front.

Mr Erbakan's Islamic-based Welfare party, he charged, had encouraged the movement by its moves to overturn dress codes that ban religious attire in public buildings, by holding a dinner for religious sect leaders at the prime minister's office, and by the provocative statements of party members.

Moreover, Welfare MPs "favouring political Islam have incited the people against the secular regime and the army". He was referring to a Welfare-led demonstration in Istanbul in May

attended by more than 100,000 supporters to protest against plans backed by the military to close some religious schools.

Saying that the armed forces placed "the highest priority on fighting religious subversive activity", Gen Turkeri said the constitution obliged them to protect secularism, one of modern Turkey's founding principles. He also quoted the article in a military regulations book that calls on the army to protect the republic against domestic and foreign threats, by force if necessary.

The briefing to the press, one of several planned for different professional groups by the general staff this week, was the latest salvo against Mr Erbakan, who continues to resist implementing a series of military directives aimed at thwarting Islamic radicalism.

The crisis between the military and the Islamists has brought Mr Erbakan's coalition government to breaking point. Pressure from the military and other quarters on the secular partner in the coalition, the True Path party led by Mrs Tansu Ciller, has led to a steady stream of defections, leaving the government without a real majority in Parliament.

In an attempt to appease their critics and hold on to power, at least in the short term, the coalition partners said earlier this month that they would push for early elections as soon as possible and that Mrs Ciller would take over as prime minister. But their plan appears shaky, as any call for early elections must be approved by parliament and their



Erbakan at prayer: coalition brought to breaking point over religious issue

swap of the premiership must be approved by President Suleyman Demirel, who is charged with appointing a new prime minister-designate in the event Mr Erbakan resigns.

Amid the political stalemate, the military is assuming an ever more prominent role in domestic and foreign policymaking, rebuffing and overruling Mr Erbakan with increasing frequency.

The prime minister's statement over the weekend that the month-old Turkish offensive in northern Iraq was nearly over was immediately denied by the general staff. A reported attempt by Welfare to block additional funds requested by the military for the Iraqi offensive was short-lived, when Mr Erbakan issued a statement that the funds would be allocated immediately.

On Tuesday, more than 400 judges and prosecutors defied orders from the Welfare justice minister, Mr Sevkettin Kalkan, to stay away from a military briefing arranged for them.

World Bank waves its chequebook at Russia

By John Thornhill in Moscow

The World Bank has launched a big expansion of its lending programmes in Russia, approving six loans last week worth a total of \$84.6m.

Despite the fact that even seemingly innocuous projects can raise the hackles of Russian nationalists, the bank's board said it was prepared to lend as much as \$6bn over the next two years, provided the government stuck to its reform course.

Mr Johannes Linn, vice-president for Europe and Central Asia, said the bank had a "tremendous window of opportunity" to accelerate Russia's economic recovery after President Boris Yeltsin's appointment of a radically minded government.

The bank's latest loans are aimed at strengthening the budget, speeding up enterprise restructuring, and raising education and health standards. Future loans will focus even more closely on encouraging structural changes in the economy.

Last month, Mr Anatoly Chubais, the first deputy prime minister who is spearheading the reform drive, said he expected the World Bank to take over from the International Monetary Fund as the main lending institution to Russia.

The success of the government's stabilisation programme, he said, meant it would not need to extend its three-year \$10.2bn budget support loan, agreed with the IMF in March 1996. But Russia would increasingly call on the bank to help fund concrete investment projects and structural reforms.

The primary aim of the IMF, which concentrates on providing technical eco-

nomic advice, has been to support the government's macroeconomic stabilisation drive. But in so doing it has attracted fierce criticism from Russian opposition politicians and some powerful industrialists.

By tying its loans to the government's fulfilment of preconditions, such as hitting monetary targets and implementing steps to liber-

alise the economy, the fund has been depicted as having a political agenda.

Communist politicians frequently rail against the IMF for dropping a "neutron bomb" on Russia's economy, destroying people while preserving property.

Mr Ren Vyakhirev, chairman of the giant Gazprom gas monopoly, also whipped up nationalist sentiments in parliament earlier this year by accusing the IMF of being in league with western multinationals to destroy the energy industry.

Russian observers suggest that the IMF's sister institution, the World Bank, may also become embroiled in domestic Russian politics by so visibly supporting controversial economic reforms.

Yesterday, the Kommersant business newspaper argued that politics remained the concentrated expression of economics - as Marxism-Leninism had taught - and warned that the bank could stray into

dangerous waters. By encouraging tax reform, further privatisation, and restructuring of the gas and electricity industries, it would cut across powerful vested interests.

"These reforms, as they are presented by the World Bank itself, not only have an economic content but a political purpose," the newspaper said.

In outlining their plans in Moscow this week, bank officials stressed their role was to support the government's stated objectives rather than to foist doctrinaire solutions on the country. But they also appeared aware of the sensitivities that their lending programmes could arouse.

Mr Andrei Markov, a bank official who is managing a project to improve the quality and availability of school textbooks, was at pains to stress the impartiality of the bank's involvement in education.

By de-monopolising the textbook industry and encouraging the competitive selection of new textbooks, the bank was trying to promote "modern" rather than overtly "capitalist" values, he said.

Bank officials acknowledge their new strategy involves high operational risks given the difficulties of disbursing and monitoring loans in Russia. The bank suspended the second tranche of an earlier \$500m loan to help restructure the Russian coal industry after it became clear its proposals were not being fully implemented.

But Mr Linn said the bank would improve the implementation of its loans, promising that 80 per cent of its projects must be rated as satisfactory by mid-1997. That rating currently stands at 65 per cent.

Setback to British hopes on beef ban

By Sander Thomas in Brussels, Neil Buckley in Strasbourg, and Maggie Urry in London

The UK's hopes that the first stage in lifting the European Union ban on its beef exports could begin soon were set back severely yesterday. A key EU committee rejected British proposals as "inadequate".

The scientific veterinary committee threw back a British plan to allow the export of beef from herds certified free of "mad cow" disease, requesting more information and questioning the reliability of UK data.

Although the plan was drawn up by the previous Conservative administration, the negative opinion is a heavy blow to the new Labour government, which had hoped its more conciliatory approach would bring early progress.

The agriculture ministry said it was examining the committee's conclusions, and would send officials to Brussels next Monday to discuss the way forward.

The scientific veterinary committee is only an advisory body, but a positive opinion could have led to recommendations from the decision-making standing

veterinary committee to the European Commission to allow the ban on certified herds to be lifted.

The committee called for more information on the spread of BSE, and estimates of the reliability of such data. It also wanted guarantees that UK feed was free of ruminant protein which can spread BSE.

Mr Ian Gardiner, policy director of the National Farmers' Union, said he had expected little from Brussels but rejected as "astonishing" the request for more data on feed. "Britain has the strongest audit trail of any European country,"

he suggested the government should now push for exports of beef from cattle born after last August 1, rather than certified herds.

But farmers in Scotland, which has a higher proportion of BSE-free herds, and Northern Ireland, which has computerised tracking systems for cattle, are likely to maintain pressure to lift the ban on certified herds.

The UK is expected to reiterate in Brussels next week its concerns that other states are not matching the stringent controls it now has in place on BSE.

Mr Jack Cunningham, UK agriculture secretary,

threatened last week to ban beef imports from other EU countries unless they removed materials with a high risk of carrying BSE from animal carcasses.

Concerns were fuelled yesterday by a report from the Commission to the European Parliament suggesting Brussels would take legal action against four EU countries for breaches of meat processing rules.

The monthly report accused France, Germany, Sweden and Spain of failing to implement new rules on heat treatment of animal waste products that might enter the food chain.

John Collins

Election challenge for Milosevic



Milosevic: aiming to prolong reign

If elections were to take place, Mr Panic would be the likely favourite of western governments, faced with a choice between him, the Socialists and the nationalist Mr Seselj.

Czech PM's cliffhanger victory fails to dispel survival fears

"If it forces the government to explain exactly what it is doing and to bring concrete proposals to parliament, that would be positive. But only if it can create consensus around each idea," one investment banker said.

Italy falls out of love with referendums

Robert Graham on flagging support for an instrument of reform introduced in 1974

It is likely, too, that the government would legislate to fill the gap created by abolition of the golden share.

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NEWS: ASIA-PACIFIC

Jiang and Blair to attend HK handover

By John Ridding
in Hong Kong and
Quentin Peel in London

President Jiang Zemin will head China's delegation to Hong Kong's handover at the end of the month, accompanied by Mr Li Peng, the Chinese prime minister, the state media said yesterday.

The British government will be represented by Mr Tony Blair, the prime minister, and Mr Robin Cook, the foreign secretary, it was confirmed in London, ending months of diplomatic manoeuvring about the level of the delegations.

However, there will be no British presence at the Chinese ceremony to follow the midnight handover on June 30. The boycott of the event has been agreed because it will involve swearing in the controversial Beijing-backed Provisional Legislative Council, which will replace the existing elected Legislative Council.

Mrs Madeleine Albright, US secretary of state, says she will not attend the Chinese ceremony, and Britain hopes its EU partners will adopt a similar attitude.

The high-powered Chinese presence at the ceremonies, which also includes Mr Qian Qichen, foreign minister, underlines the importance China attaches to the resumption of sovereignty over Hong Kong. It will be the first time that a Chinese leader has set foot in the territory since it was ceded to Britain more than a century and a half ago.

For China, the transfer of power symbolises the end of a period of weakness and its rise as an economic and political power. But while Mr Jiang will seek to reap political capital from his attendance, the boycott could prove an embarrassment.

Members of the US congress said on Tuesday that they will follow suit, while Britain will raise the issue both at the EU summit in Amsterdam next week, and at the Group of Seven meeting in Denver, in the hope of persuading others not to endorse the unelected body.

Mr Chris Patten, Hong Kong's governor, yesterday urged China to reconsider plans to combine the swearing-in of the territory's new executive with the legisla-

ture. "It would have been better, as would customarily happen, if the provisional legislature was being sworn in separately."

But Beijing and the government-in-waiting have shown little sign of concessions. Mrs Rita Fan, president of the provisional legislature, dismissed suggestions that the ceremonies could be divided. "Whether certain foreign powers wish to accept us or not, it doesn't have any substantial meaning for us," she said.

Mr Jiang's visit will only last a few hours before he returns to Beijing for celebrations marking the handover. While in Hong Kong he will represent China in the formal handover ceremonies at midnight, where Britain will be represented by the Prince of Wales.

Mr Jiang's presence appears to be behind demands that armed Chinese troops be stationed in their barracks by midnight. The issue threatens to create a dispute with Britain, which has resisted the presence of armed mainland troops before the handover.

Editorial comment, Page 13

Pakistan economy way off target

Pakistan's four-month-old government yesterday published economic figures that provide a dismal backdrop to its first budget tomorrow.

The finance ministry's annual economic survey, based on the first nine months of the July-June financial year, showed that performance was considerably short of the targets set in last year's budget.

Gross domestic product grew 3.1 per cent compared with a target of 6.2 per cent. Agriculture, which makes the largest contribution to economic output, grew 0.7 per cent, its target was 5 per cent.

On the manufacturing front, Mr Sartaj Aziz, the finance minister, spoke of an "industrial crisis".

"Large-scale manufacturing has gone into minus (1.4 per cent) for the first time in our history," he said.

An 8.4 per cent growth in small-scale manufacturing, however, helped to lift the overall growth rate in manufacturing to 1.8 per cent. The target was 7.2 per cent.

Mr Aziz said industry suffered from high taxes (before cuts announced in March), high interest rates and high electricity tariffs. Officials said total government revenues were likely to fall 15 per cent behind target.

Pakistan: high hopes, low marks

July 1996 - June 1997	Actual	Target
GDP growth	3.1%	6.2%
Growth in agriculture	0.7%	5%
Growth in manufacturing	1.8%	7.2%
Official foreign exchange reserves (in US\$ bn)	\$94.5m	\$11.5m
Export growth	0.5%	12%
Import growth	-6.4%	5%
Budget deficit (as % of GDP)	6.2%	4%
Current account deficit (as % of GDP)	7.1%	4%



Sartaj Aziz
Finance Minister

All these factors will make for a difficult budget for the government of Mr Nawaz Sharif, who is a businessman turned politician.

The markets and the International Monetary Fund will be looking closely for fresh tax reforms, in particular on collection, considered essential for a new loan agreement.

An earlier standby agreement with the fund collapsed in March when Pakistan failed to meet most of the conditions. Officials say that, barring unexpected set-

backs, they hope to finalise a new three-year loan agreement with the fund by October.

Pakistan has almost \$3bn in debt payments due by December this year. It also has a monthly trade deficit of about \$300m that needs to be financed.

Mr Sharif's administration is expected to announce details of new, simpler tax returns to replace the widely criticised ones launched last year, which added several columns seeking details on personal expenditures. Such

changes would build upon earlier tax reforms announced in March when corporate and personal tax rates were slashed.

The effort is part of a campaign to encourage more Pakistanis to pay taxes. The country still has only a million income tax payers in a population of 140m. Evasion is rampant because of deep-rooted corruption among businessmen and tax collectors.

Mr Aziz said recently: "Whenever you lower tax rates, there is international

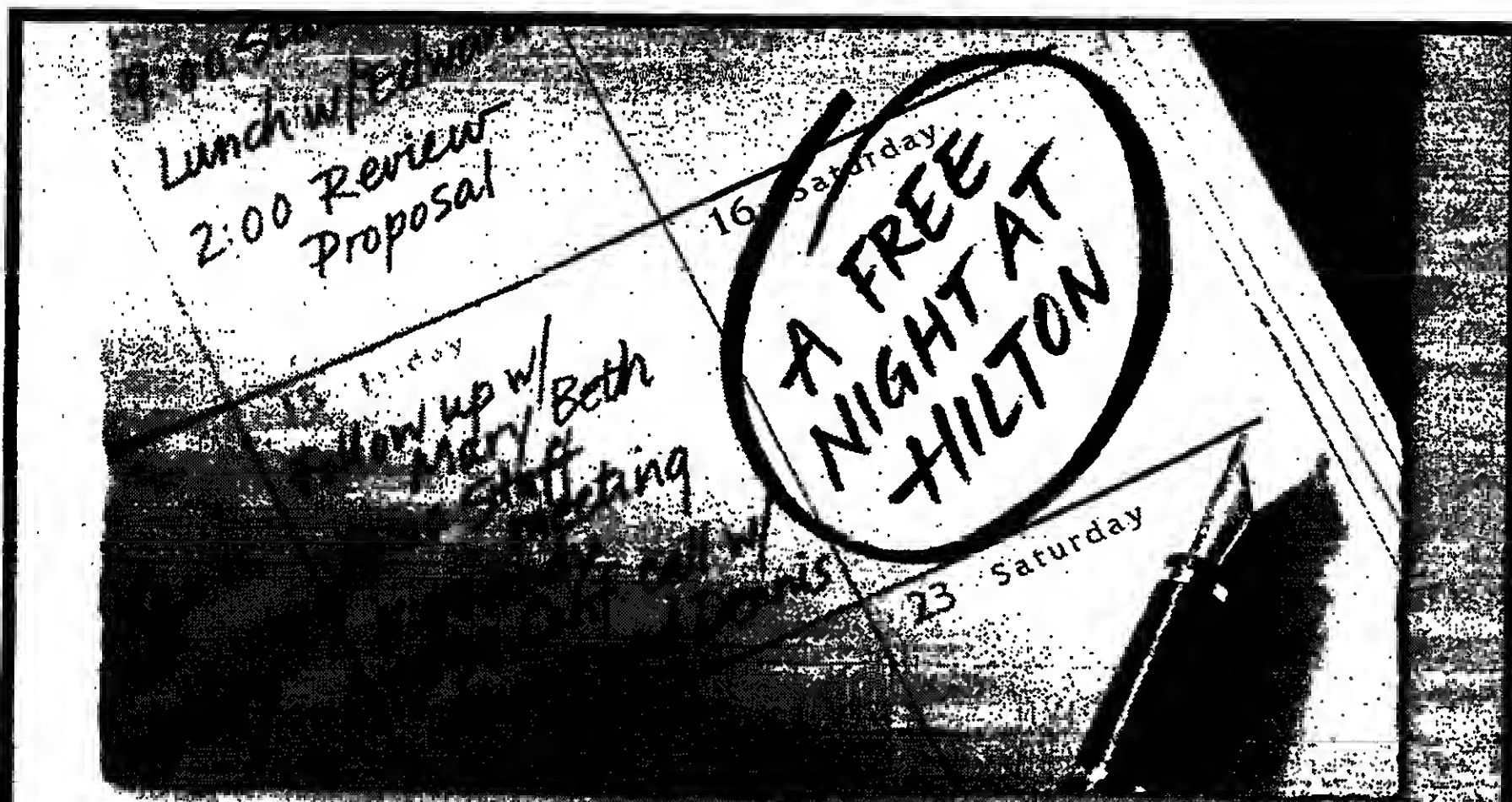
experience that tax evasion is reduced. But at the same time, you must tighten your audit and your monitoring machinery and that's what we are doing."

A recent 20 per cent cut in import tariffs as a part of the new government's liberalisation policies, with the top rate of duties being reduced to 45 per cent, will also contribute to a fall in government revenues.

Analysts will be looking for evidence that the new government will be intent on putting into practice the policies that go with the grand claims. Ms Fatima Shah, country economic analyst at the James Capel office to Islamabad, says: "Pakistan's three most important policy problems are implementation, implementation, implementation."

No cuts are expected in defence expenditure. Hawks in the Pakistani establishment have recently found an opportunity to demand a stronger defence policy after reports that India had deployed short-range missiles close to the Pakistani border. Also, India began to bring its new Russian Su-30 fighter aircraft into service with its air force this week.

Farhan Bokhari



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ASIA-PACIFIC NEWS DIGEST

Manila praises foreign banks

The Philippine central bank yesterday gave strong endorsement of the performance of foreign banks in their first full year in the country. It said that their investment had fuelled the country's improved economic growth and helped finance industrial expansion.

Ten foreign banks were granted licences to set up branches following the fiercely contested liberalisation of the sector in 1995. Between them, they brought 37.6bn pesos (\$1.43bn) in new money into the financial system in 1996, according to central bank figures. They also extended 45bn pesos in loans and investments to local companies.

"What these figures show is that, contrary to the fears raised by some protectionist and inward-looking sectors of our society, the foreign banks have in fact brought in foreign capital that went to finance the expansion of key local industries that in turn helped sustain the record of Philippine growth," said Mr Gabriel Singson, governor of the central bank (pictured left). Mr Singson's remarks may be interpreted as an early sign that he will permit further penetration of the local market by oew



foreign banks. ■ News of the foreign banks' strong performance accompanied an announcement from the Board of Investments that it had approved projects worth 177.4bn pesos in the first five months of the year, a gain of 136 per cent.

Justin Marozzi, Manila

Bank of Japan's extra powers

Japan's central bank was yesterday granted nominal independence to set interest rates and a ban on holding companies was lifted, thus putting in place two planks of a reform programme in advance of "Big Bang" proposals to deregulate the financial sector. The upper house of the Japanese parliament passed a bill giving the Bank of Japan greater control over the operation of monetary policy. It also changed the law to allow the creation of holding companies that exist purely to hold shares in other companies. Both reforms will come into effect from next April.

Another, crucial, plank of these changes will emerge tomorrow when government-sponsored advisory committees issue the first detailed proposals for the "Big Bang" reforms in the banking, securities and insurance sectors.

Gillian Tett, Tokyo

Australian housing recovery

Data released yesterday showed signs of strong recovery in Australia's housing market, but the May monthly business survey from National Australia Bank, the country's biggest commercial bank, indicated some ebbing of corporate confidence.

The total number of housing finance approvals surged by 12.2 per cent in April, and now stands at 15.6 per cent above the level for the same month last year—figures that were at the upper end of analysts' expectations. By contrast, however, the NAB survey found that "business confidence declined slightly in May despite the recent falls in interest rates".

Nikki Tail, Sydney

Transit plea to Bangladesh

Indian officials and business leaders are pressing Bangladesh to grant India a transit route. A 45-member delegation from India's north-eastern states stressed the benefits of direct road transit between the main part of India and the seven states mainly cut off by Bangladesh, during a five-day visit to the country.

"The north-eastern region of India holds the potential to act as a gateway to the burgeoning markets of south-east Asia. Such a transit route could make the region a formidable centre of economic activity by the turn of the century," said Mr Shri H.S. Kumbhat, delegation leader.

A link to replace the current circuitous road and rail routes would generate a net income of nearly \$100m a year for Bangladesh, he added.

Kasra Naji, Dhaka

250 killed in Sri Lanka attack

Sri Lankan troops began clearing northern areas yesterday after an offensive by separatist Tamil guerrillas on the army's forward defences left more than 250 dead, including at least 50 government troops, the defence ministry said.

"The area has stabilised completely and troops are engaged in clearing the vast area affected by the terrorist attack," the ministry said. It said more than 1,000 Liberation Tigers of Tamil Eelam rebels took part in the pre-dawn attack on Tuesday on army defences 230km north of Colombo.

Reuters, Colombo

NEWS: THE AMERICAS

AMERICAN NEWS DIGEST

Battle over US tax cuts

The House of Representatives Ways and Means committee was expected to begin voting late yesterday on an \$85bn tax cut bill, as Democrats and Republicans fought a bitter public relations battle over the impact of planned reductions.

Administration officials worked hard to put out the message that the tax cut proposals announced by the Republican chairman of the committee on Monday help the wealthy more than the poor. Meanwhile, Republicans touted their plan as helping middle-income families.

Democrats are deeply divided over the tax plan, part of the agreement to balance the federal budget. Mr Robert Rubin, Treasury secretary, said the cuts favoured the affluent. The proposals include cuts in capital gains taxes, a \$500 per child tax credit and a \$1,500 credit for the cost of tertiary education.

President Bill Clinton said on Tuesday that the proposals violated the balanced budget agreement, because they provided too little for education credits and penalised the working poor. *Patti Waldmeir, Washington*

Chrétien in cabinet reshuffle

Western Canada's growing political influence was reflected in a cabinet shuffle unveiled yesterday by Mr Jean Chrétien, prime minister. Several senior ministers, including Mr Paul Martin at finance and Mr Lloyd Axworthy at foreign affairs, were not affected by yesterday's changes. The shuffle comes little more than a week after a general election in which Mr Chrétien's Liberals won a second term in office, but with a reduced majority.

The western-based Reform party, which was formed a decade ago with the slogan "The West Wants In", emerged as the official opposition, taking several seats from Liberals in Alberta and British Columbia. Reform's campaign platform reflected a perception in western Canada of the federal government's favouritism towards French-speaking Quebec.

The shuffle included the promotion of Ms Anne McLellan, an Edmonton MP, from natural resources to justice and of Vancouver Island's Mr David Anderson from transport to the politically sensitive fisheries ministry. Mr Sergio Marchi becomes international trade minister. *Bernard Simon, Toronto*

Setback to Brazil reforms

The Brazilian government's attempt to push forward its constitutional reform programme faced a setback when it failed to defeat an opposition amendment to its civil service reform bill.

Although the amendment does not do substantial damage to the civil service bill, it was the first in a series of votes scheduled for this week. The civil service bill is one of two key reforms aimed at reducing the budget deficit, which economists say is crucial if the country's low-inflation is to be secured. The bill could reduce government spending by the equivalent of 1 per cent of gross domestic product, economists estimate. The government secured only 301 votes against the amendment, seven short of the three-fifths majority it needs for constitutional reforms.

The issue of land reform in Brazil came to the boil again yesterday after Mr José Rainha Junior, one of the leaders of the landless labourers movement (MST), was sentenced to 26 years in prison for his involvement in the murder of two men. The MST said it would appeal against the decision. *Geoff Dyer, São Paulo*

ADM at centre of new probe

Archer Daniels Midlands, the US agribusiness group, which last year pleaded guilty to price-fixing charges in the US, is now the subject of a similar probe in Europe, the company said yesterday.

ADM and several of its European subsidiaries are among the subjects of an anti-competitive practices investigation by the European Commission. The company said the Commission was looking at the possible participation of major manufacturers in anti-competitive practices or agreements in certain markets for amino acids, including lysine, a feed additive.

ADM paid a record \$100m in fines last year after pleading guilty in the US to fixing prices of lysine and citric acid, a food additive. *Reuters, Chicago*

Deadlock as industry and lawyers disagree over government's regulatory powers

Tobacco talks in nicotine stalemate

By Richard Tomkins
in New York

Peace talks in the US tobacco wars appeared to stall yesterday amid disagreements between the tobacco industry and anti-tobacco lawyers about how much power the federal government should have to regulate the nicotine content of cigarettes.

Anti-tobacco negotiators said Britain's BAT Industries, which owns Brown & Williamson Tobacco, the third biggest US cigarette

company, had broken ranks with Philip Morris and RJR Nabisco, the top two US cigarette makers, over the issue.

BAT declined to comment, but Mr Martin Broughton, the company's chief executive, was believed to be planning to fly to Washington tomorrow to take part in the talks. Negotiators are hoping his arrival will help break the deadlock, opening the possibility of a deal next week.

The tobacco industry and lawyers representing states

and individuals with lawsuits pending against the industry are discussing a landmark settlement under which the industry would pay out \$300bn or more over the next 25 years and accept tougher regulation in return for wide-ranging immunity from litigation.

The two sides have been drawn together because both stand to make big gains from such a deal. But the terms proposed have drawn vigorous opposition from public health advocates, who believe a settlement will

bring few, if any, benefits to society.

As a result, the negotiators are being forced to seek a deal that looks tougher on the tobacco industry. This has increased the risk that one or more of the tobacco companies will find the terms unacceptable.

Yesterday's impasse appeared to have been caused by a proposal that the US Federal Drug Administration should be able to order a gradual reduction in nicotine levels over a certain period, and ultimately ban

nicotine in certain circumstances. One observer said BAT opposed this provision because the company had a bigger international exposure than the US companies in the talks, and feared the provision would set a precedent for tougher regulation in other countries.

However, this is not the only issue. Other sticking points include how much protection the industry should have from lawsuits brought by individual smokers, and whether punitive damages should be banned.



Martin Broughton: to seek end to deadlock

Dam wins approval with tough conditions

By Inogen Mark in Santiago

The Chilean government has imposed unusually tough conditions on its approval for a hydro-electric dam on the BioBio river.

These are people in the company's traditional Midwest plants, before the Japanese invasion that rocked the US auto industry in the 1970s and 1980s.

GM survived - barely - and is now profitable again. But according to these strikers, the 1990s have been a time of joyless prosperity. In its efforts to raise profitability to a more sustainable level, GM has bent on trimming staff and outsource-

The company has yet to win approval from Conadi, the council for native peoples, which must approve any change in ownership or use of Indian lands. A director of Conadi opposed to the dam was replaced by the government a month ago by a new appointee who is apparently more amenable to the plan.

The project has divided the 5,500 or so Pehuenches who live in BioBio valley. Some families support the dam, which they see as bringing jobs to the area.

An independent report on the impact of Endesa's Pangaea dam further downstream, commissioned by the International Finance Corporation (IFC), was critical of Endesa's past record on the environment and its treatment of Indians.

The Ralco plant will generate 3,880Gwh of electricity, almost 20 per cent of the capacity of the central power grid.

By Richard Waters in Detroit

The picket lines this week around a General Motors pick-up truck plant in Pontiac, outside Detroit, tell the story of an ageing generation of car workers - and of a problem that has thrown the US's biggest carmaker

and its unions into a running battle in the mid-1990s. These are people in the company's traditional Midwest plants, before the Japanese invasion that rocked the US auto industry in the 1970s and 1980s.

GM survived - barely - and is now profitable again. But according to these strikers, the 1990s have been a time of joyless prosperity. In its efforts to raise profitability to a more sustainable level, GM has bent on trimming staff and outsource-

The ageing workers at Pontiac say they are simply working too hard. With fewer workers, it has become difficult for many to take holidays, while even lavatory breaks have become problematic. Overtime, in many cases, has become obligatory.

"The big thing isn't the money - there's just too many hours," says Mr Tom Scott, 58, one of the picketers. "We're not 20 years old any more."

According to Mr Doug Fraser, a past president of the United Auto Workers union, one thing links all these local flare-ups. "It's the same basic issue: jobs," he says. After seeing so many jobs disappear in the bad times, the UAW has decided to use the prosperity of the late 1990s to try to prevent the steady attrition in its ranks, he adds.

GM, though, shows no signs of letting up. According to the widely followed annual productivity study of the car industry conducted by Harbour Associates, published yesterday, GM's assembly plants employ 3.47 workers for each car or truck the company builds in the US - one fewer than five years ago, but still more than Ford (which employs 3.29) and Chrysler (3.09) and considerably more than US-based Japanese plants (which range from 2.23 to 2.67 workers per vehicle.)

That gap should narrow as GM introduces new vehicles which are more efficient to build. GM's new pick-up truck to be built in Pontiac this autumn, for instance, will require 30 per cent less labour, the company says.

Under a series of labour agreements, the most recent of which was hammered out last year, the present genera-

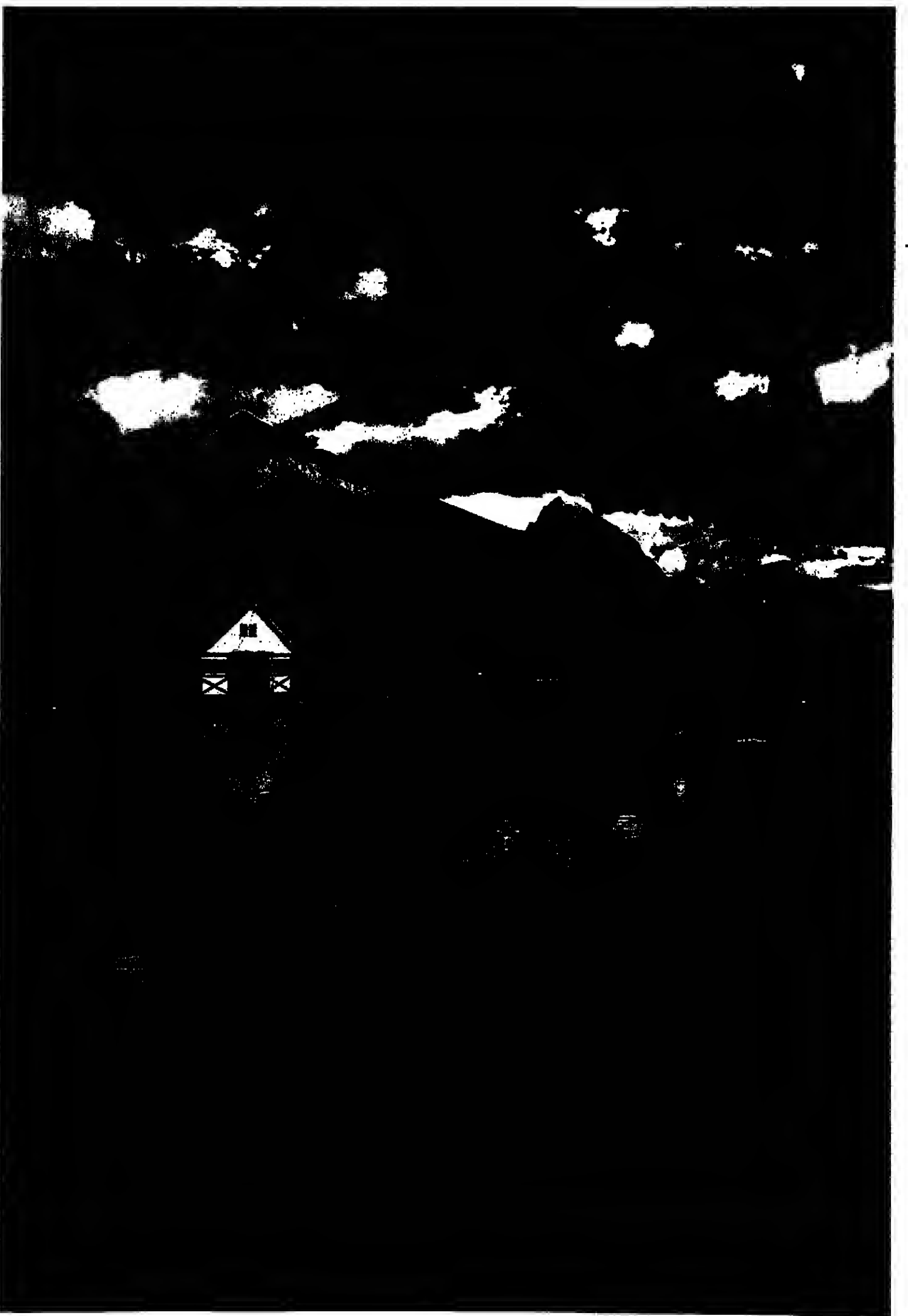
tion of workers has been virtually guaranteed jobs for life - or generous payments if no jobs for them exist.

However, Mr David Littman, chief economist at Comerica, Detroit's biggest local bank, points out, this generation of car workers is nearing retirement.

Early next century, US carmakers will go on a hiring binge, bringing tens of thousands of new workers into the industry. In many ways, it is over terms of these jobs that this summer's strikes are being waged.

A more competitive car market will make this a tough fight for the UAW to win. "Are they trying to get the same pay and benefits [for these new employees] as for the past generation?" says Mr Littman. "It's just not possible."

FT Auto Survey: Separate Section



Probably the best beer in the world.

PUBLIC NOTICES

NOTICE PUBLISHED BY THE SECRETARY OF STATE UNDER SUBSECTIONS 8(5) AND 10(6) OF THE TELECOMMUNICATIONS ACT 1984

The Secretary of State hereby gives notice as follows.

- He proposes to grant to Cable Thames Valley Limited ("the Licensee") a licence under the Telecommunications Act 1984 ("the Act") to run telecommunication systems in London and in the counties of Bedfordshire, Berkshire, Buckinghamshire, Hertfordshire, Hampshire, Leicestershire, Northamptonshire, Oxfordshire, Staffordshire, Surrey, Warwickshire, West Midlands and Wiltshire ("the Licensed Area"). The licence will be for a period of 25 years subject to earlier revocation in specified circumstances.
- The effect of the licence will be to enable the Licensee to install and run telecommunication systems in the Licensed Area. The Licensee will be able to provide a wide range of services but excluding mobile radio services and certain international services. The Licensee authorises connections to a wide range of other systems, including earth orbiting systems, allowing the provision of some types of international satellite services. On securing a share of 25% or more of the market in respect of particular services in an area specified by the Director General of Telecommunications, the Licensee may be obliged to make available those telecommunication services to all who reasonably request them within that area.
- The Licensee will be subject to conditions such that section 8 of the Act will apply to it, thereby making each of the systems run under the licence eligible for designation as a public telecommunication system under section 9 of the Act. It is the intention of the Secretary of State to designate each of the Licensee's systems as a public telecommunication system.
- The Secretary of State proposes to grant the licence because he considers it will help to satisfy demands in the Licensed Area for the provision of services of the type authorised, will promote the interests of consumers in respect of the quality and variety of all such services, and will maintain and promote effective competition between those engaged in the provision of telecommunication services.
- He proposes to apply the telecommunications code ("the Code") to the Licensee in relation to the Licensed Area subject to certain exceptions and conditions. The effect of these exceptions and conditions is that the Licensee will have duties:
 - to comply with various safety and environmental conditions, in particular (with certain exceptions) to install lines underground or only on such above ground apparatus as is already installed for any purpose;
 - to comply with conditions designed to ensure efficiency and economy on the part of the Licensee, in connection with the execution of works on land concerning the installation, maintenance, repair or alteration of its apparatus;
 - to consult certain public bodies before exercising particular powers under the Code, including the local planning and highway authorities and English Nature and the National Trust, as well as relevant electricity suppliers;
 - to keep and make available records of the location of its underground apparatus and copies of the exceptions and conditions in the licence to its powers under the Code; and
 - to ensure that sufficient funds are available to meet certain liabilities arising from the execution of street works.

The reason why he proposes to apply the Code to the Licensee is that the Licensee will need the statutory powers in the Code to install and maintain the telecommunication systems required to be installed and run under the proposed licence.

The reasons why it is proposed that the Code as applied should have effect subject to the exceptions and conditions referred to above are that they are considered requisite or expedient for the purpose of securing that the physical environment in the Licensed Area is protected, that there is no greater damage to land than necessary, that the system is installed as safely and economically as possible, and that the Licensee can meet (and relevant persons can enforce) liabilities arising from the execution of works.

Representations or objections may be made in respect of the proposed licence, the application of the Code to the Licensee in relation to the Licensed Area and the proposed exceptions and conditions referred to above. They should be made in writing by 11 July 1997 and addressed to the undersecretary at the Department of Trade and Industry, Communications and Information Industries Division, Room 2.57, 151 Buckingham Palace Road, London SW1W 9BS. Copies of the proposed licence (including a map of the Licensed Area) can be freely obtained by writing to the Department or by calling 0171 215 1754.

Anthony Eden-Brown
Department of Trade and Industry

12 June 1997

Unita pressed to cut deal on diamonds

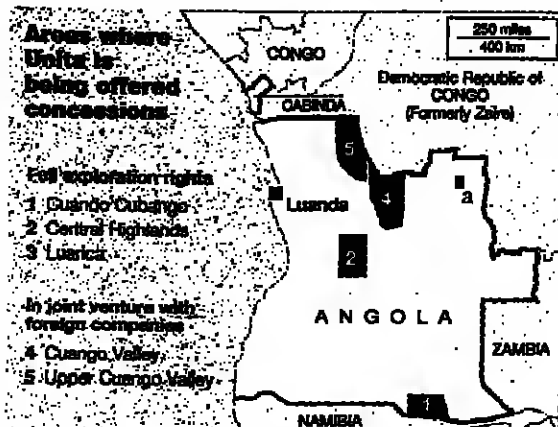
By Barnaby Phillips

Angola's former rebel Unita movement is coming under increasing government pressure to reach agreement on the allocation of the country's diamond concessions, worth an estimated \$700m a year.

The long-running dispute over Unita's control of about two-thirds of the country's production threatens to hold up implementation of the final phases of the peace process which ended Angola's civil war.

"Unita is being warned it is in a weak position, and it should sign now, rather than risk losing everything," said one diplomat in the capital Luanda.

But Mr Jonas Savimbi, Unita's leader, has expressed concern about his movement's viability should it



lose its diamond areas. "The government has the oil, we need at least some of the diamonds if we are to ever contest elections again in Angola," says one of Mr Savimbi's close advisers.

Although the 19-year conflict between Unita and the

MPLA government ended in 1994, the former rebels have remained in control of most of the Angolan countryside, and have carried on exporting diamonds, principally through the Congo, formerly Zaire, whose ex-leader, former President Mobutu Sese

Sekoto, was a long-time Unita ally.

But President Mobutu's fall has compromised Unita's ability to trade diamonds, while simultaneously buoying the confidence of the Angolan government.

In mid-May the Angolan army launched an offensive in the diamond-rich north-eastern province of Lunda Norte, capturing several towns and villages in Unita-held territory. A Unita spokesman admits they have already lost control of some diamond mines, while industry analysts estimate the government may have captured 10 per cent of the movement's productive areas.

Meanwhile, further build-ups of government troops have been reported in the north-eastern towns of Dundo, Caçola, Saurimo and

Cafunfo. "The government is trying to concentrate Unita's mind," said an official involved in the Angolan peace process.

Unita's team of diamond negotiators have been talking to their counterparts in the state Angolan diamond company, Endimasa, for more than a year.

With Endimasa's blessing, Unita has established its own legal mining company, Sociedade Geral das Minas (SGM). Two weeks ago, the Angolan government awarded SGM the rights to prospect in two concessions: one in the southern province of Cuando-Cubango, and one in the central highlands, around the Unita-held town of Andulo. Diamonds are not being produced in either area at present, but the concession in Cuando-Cubango

is believed to have exploitable Kimberlite pipes (diamond-bearing structures), while the concession around Andulo is thought to have alluvial diamond deposits.

But negotiations have stalled in other areas. Unita officials say that SGM was offered exclusive rights to prospect in the Lunda Norte concession, in Lunda Norte, where both Unita and the Angolan government are producing diamonds. Unita alleges that the government has reneged on the earlier agreement, and is trying to redraw the boundaries of the concession to accommodate the interests of individuals in the government and the army.

Meanwhile, further to the west, Unita has been offered a shareholding in the Sociedade Mineira de Desenvolvimento, SMP, the consortium

to which the government has already awarded the crucial Cuango valley concession.

This includes Angola's richest alluvial deposits, which are being heavily mined by Unita. The movement has so far failed to reach agreement with SGM, which is comprised of Australia's Ashton Mining, Brazil's Odabrecht, and Endimasa.

"We are still hold most of the Cuango valley, and we are not moving out until we get a 'good profit-sharing deal,'" says a Unita official. Similar talks are going on over the Upper Cuango concession, which is also in Unita-held territory, but which has been awarded by the government to the Dutch-based International Defence and Security (IDAS).

Euro MPs told of repression in Tunisia

By House Khairat

Five human rights organisations were yesterday invited to the European parliament where leftwing groups are pushing for a resolution on human rights in Tunisia.

Amnesty International says there is a "widening circle of repression" in Tunisia - an accusation rejected by the Tunisian government.

Tunisia has signed a partnership agreement with the European Union, which includes a clause on respect for human rights. A resolution by the European Parliament last year is believed to have contributed to the release of two Tunisian political leaders. Both, however, are now banned from political activities.

A parliament official said yesterday some Tunisian human rights activists were prevented from travelling to Strasbourg to attend the meeting.

A report this week by Amnesty says detention and imprisonment, torture, harassment and intimidation are used to silence, intimidate and punish opponents and critics across the political spectrum. The report says local human rights organisations are prevented from functioning.

According to Amnesty and other human rights activists, several trade unionists were detained this year, after the publication of a series of petitions. One was a protest against government interference in the management of the main trade union. Another, signed by 202 people, including trade unionists, lawyers, university lecturers and doctors, condemned increased restrictions on civil liberties.

W Sahara talks start in London

Mr James Baker, former US secretary of state, now serving as United Nations special envoy for Western Sahara, yesterday opened talks in London with parties involved in the dispute over the North African territory. Reuter reports from London.

Mr Baker, who will hold two days of separate talks with all those involved, started by meeting the Algerian-backed Polisario Front, which seeks independence for Western Sahara.

He will also meet representatives of Morocco, which controls most of the former Spanish colony, as well as envoys from Algeria and Mauritania, both closely concerned with the issue.

The UN has been trying for years to organise a referendum, originally set for January 1992, to decide whether Western Sahara should be part of Morocco or become independent. But the referendum, called for under a UN peace plan, has been repeatedly delayed because of a disagreement between the two sides over who should be eligible to vote.

Taliban advance is reversed

The political map of Afghanistan has almost completely reverted to the way it looked three weeks ago. The last remaining big city captured by the Taliban in their short-lived blitzkrieg across the north fell yesterday to the forces of General Abdul Malik, writes Charles Clover in Pol-Khormi.

The city of Pol-Khormi was retaken after the Taliban fled in the night following skirmishing with Gen Malik's troops.

The Taliban forces are apparently heading towards Baghlan City, 30km away, to seek refuge from the one remaining sympathetic warlord in the north, Bashir Baghlan.

The Taliban, the radical Islamic army which has conquered three-quarters of Afghanistan in the past three years, captured several northern provinces as the result of a short-lived alliance with Gen Malik. They have been routed from these areas following a catastrophic defeat in Mazar-i-Sharif after the partnership soured.

Red Cross disasters report points to poor accounting by NGOs, which handle three-quarters of aid deliveries

Quality standards urged for world's relief agencies

By Frances Williams in Geneva

Universal quality standards for aid agencies, equivalent to those used by business, are needed to improve aid delivery and better serve the victims of disasters, according to the latest annual World Disasters Report from the International Federation of Red Cross and Red Crescent Societies.

The report, published yesterday, says non-government organisations (NGOs) have ceased to be "gap-fillers" in disaster assistance, following decisions by many governments to cut back their own relief efforts for budgetary and political reasons.

Independent agencies now put more money into Africa than the World Bank and worldwide they handle as much as three-quarters of all aid delivered on the ground, the federation notes.

Though most assistance is accounted for by seven or eight well established NGO networks, including the fed-

eration, church groupings, Médecins sans Frontières, Oxfam and others, the number of NGOs is booming, the report says.

In 1996 the Commission on Global Governance counted nearly 29,000 international NGOs and new ones spring up with each crisis. "In a humanitarian world without rules or a controlling body, anybody can be a relief agency."

An international evaluation of the Rwanda crisis conducted in 1996 found that almost a third of the 170 agencies registered in the Great Lakes region had disappeared. The destination of \$120m of the \$1.4bn spent on the Great Lakes disaster "was uncertain".

Mr Peter Walker, director of disaster policy at the Geneva-based federation, said this week the missing money was not necessarily misappropriated, but it was not properly accounted for. The Rwandan example clearly indicated the need for professional standards.

"If you run the medical profession like that, there would be real problems," he said.

The federation, which has already developed a 10-point ethical code of conduct for its 171 national societies and other NGOs, is working with other leading NGO networks on a set of performance standards for aid delivery which they hope to complete within a year.

"Agencies must be able to lay down what disaster victims have a right to expect in terms of what is delivered or secured, and how it is provided," Mr Walker said.

"What we need is the humanitarian equivalent of ISO (International Organisation for Standardisation) international standards."

In the long-term, adherence to these standards could be a criterion for receiving funds from governments and others, Mr Walker said, though no formal monitoring mechanism is envisaged for the time being.

A "winnowing" of relief

agencies in industrialised countries is expected to follow a probable decline in official relief spending over the next few years, according to the report, though NGOs in developing countries are still expanding.

Like the ISO 9000 quality management standards, the federation plans to make its quality standards "client-oriented" to emphasise the responsibility agencies have to disaster victims as well as to donor governments and other fund-providers.

Mr George Weber, federation secretary general, notes that "traditionally, poor and vulnerable people looked to governments and their welfare systems for help". Now they are increasingly relying on private charities which need to be accountable to those they are trying to help.

Mr Weber said clear quality standards would help NGOs in balancing the interests of victims, donors and pressures to compete for funds and publicity, as well as guide them in making

Top 10 non-conflict related disasters in 1996



ethically-based life-and-death decisions.

Disaster relief has become a big industry, according to the report. In 1971 governments spent less than \$200m on disasters worldwide while by 1994 total crisis spending had reached \$8bn.

More than 136,000 people die each year in disasters, notably drought and famine,

and by 2000 \$50m a year will be affected, the federation says. Drought and flooding each affect over 60m people a year while natural disasters of all kinds cost \$87bn a year on average.

The report notes that the world's refugee and displaced population fell by 2m last year to 33.7m. Governments also reduced humani-

tarian assistance and food aid. The number of natural disasters last year, at 180, was down on 1995 but there was a 6 per cent increase in the number of people affected, reflecting catastrophic floods in China and North Korea.

World Disasters Report 1997, Oxford University Press, £15.99.

UN sets \$80bn as price of ending world poverty

Andrew Balls looks at a report which urges a new global political commitment to break the spiral of decline

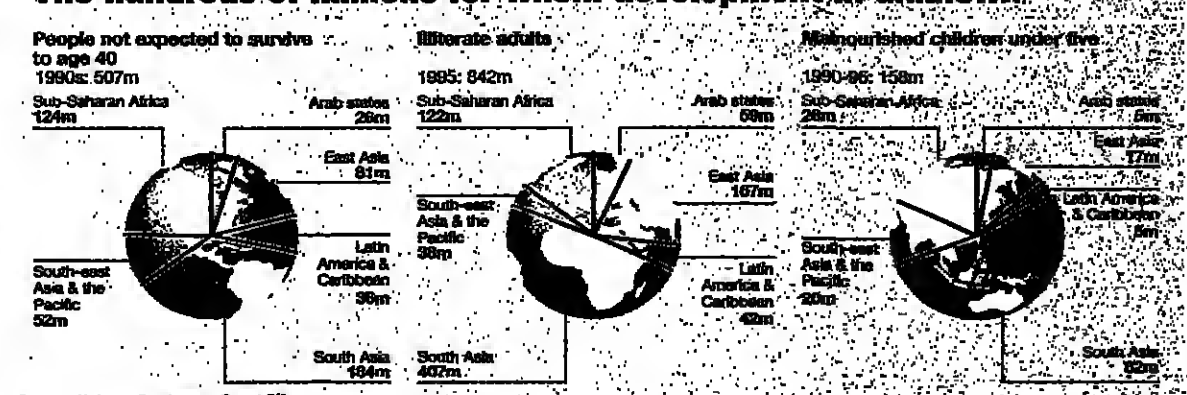
Extreme poverty could be eradicated across the world in the early part of the 21st century, according to the 1997 United Nations Human Development Report.

It says the developing world has made progress in the last 30 years that took the industrial world a century to accomplish. More than 75 per cent of the world's population can now expect to live beyond 40. Child mortality rates have halved since 1960, malnutrition has fallen by a third, and adult literacy by half.

But, the report warns, there is no room for complacency: 800m people worldwide do not have enough to eat, and 1.3bn people live on less than \$1 per day.

The eighth annual UN survey, compiled by a team of economists directed by Mr Richard Jolly, uses this \$1 per day poverty line as a base for international comparisons. On this measure, poverty in developing countries fell from 34 per cent of the population in 1987 to 32 per cent in 1993. South Asia accounts for 515m (39 per cent) of the world's poor; Africa 219m (17 per cent of

The hundreds of millions for whom development is unknown



the total), and Latin America 110m (9 per cent).

China has contributed a large part of the decline in world poverty. However, while income poverty levels are falling in Asia, they are increasing in Africa and Latin America.

But the report also introduces a more complex notion of "human poverty", which focuses on lack of capabilities, rather than low income alone. The Human Poverty Index (HPI) measures life expectancy (the percentage of people expected to die before the age of 40), education levels (the percentage of adults who are illiterate), and overall material provision (the percentage of people without access to health services and safe water, and the percentage of children under five who are underweight). On this index the report estimates that a quarter of the developing world lives in poverty.

Trinidad and Tobago, Cuba, Chile, Singapore and Costa Rica have made the most progress on this count, reducing human poverty, to

less than 10 per cent. Sub-Saharan Africa has the highest proportion of people in human poverty, and its fastest rate of growth. In seven African countries, Niger, Sierra Leone, Burkina Faso, Ethiopia, Mali, Cambodia and Mozambique, human poverty affects more than 50 per cent of the population.

Between 1990 and 1994 per capita income to Sub-Saharan Africa fell by 2.4 per cent. Earlier, between 1970 and 1992, GDP per head increased by only \$73, compared to \$420 in South Asia and \$300 in East Asia. Africa has failed to attract foreign investment, and excessive military expenditure and foreign debt repayment have been a drain. The problems are worsened, says the report, by the increasing incidence of AIDS, and violent conflict in 30 African countries.

Worldwide, the Human Development Index, put

Canada in first place, followed by France, Norway and the US. Japan comes seventh, the United Kingdom 15th, Germany 19th and Italy 21st, just above Hong Kong, Cyprus and Barbados. At the bottom are Sierra Leone, Rwanda and Niger.

The authors emphasise that developing countries need first to help themselves - to suppress conflict, corruption and organised crime and to invest in human capital. Four macroeconomic policies, and the failure to uphold the rule of law and to enforce contracts, has deterred foreign investment.

To break this downward spiral, and to eradicate income poverty, the report proposes a six-point plan:

● Promoting the political rights of poor people, and making clean water, education, health care and social safety nets available to all.

● Promoting sexual equality, to ensure equal rights, equal access to education, equal access to health care, and equal access to land and credit for women.

● Higher levels of growth, and "pro-poor growth" that reduces inequality and helps the poor, and those to rural areas.

● Managed globalisation to help the poorest countries, through fairer world trade,

concessional assistance, debt relief, and the promotion of basic education and skills.

● A democratic voice for the poor in developing countries, to allow them to advance their own interests peacefully.

● Special support from the international community in conflict prevention and peacekeeping, debt relief for human development, and poverty eradication, and more aid better directed to help the poor.

The report says that basic social services could be made available to all people in developing countries at the cost of \$40bn over the next 10 years. A further investment of \$40bn over 20 years could spur pro-poor growth, and eradicate income poverty across the world. With this price-tag for eliminating poverty of \$80bn - 0.5 per cent of global income of \$25,000bn - the report concludes that "political commitment, not financial resources, is the real obstacle to poverty eradication".

Human Development Report 1997, Oxford University Press, £16.99 (paperback). Editorial comment, Page 13

NICO COLCHESTER PRIZE FOR EUROPEAN WRITERS

Applications are invited for a new prize, established in memory of Nico Colchester, who died in 1996 at the age of 49, after an outstanding career at the *Financial Times*, *The Economist*, and the Economist Intelligence Unit. Nico was one of Britain's finest writers on foreign, especially European, affairs as well as business and technology, and one of his particular talents was the use of humour to cast light on serious matters.

The trustees of the Nico Colchester foundation will award the prize to the best, specially-written 1,000-word article that reflects that flavour of Nico's own work. Applicants should submit their article, in English, on a subject they believe to be central to the future of Europe's political, economic, scientific or business development.

Applicants should be young, should be pursuing or intending to pursue a career in journalism, and be citizens of a European Union country other than Britain.

The prize will consist of a three-month internship at *The Economist* in the autumn of 1997. The foundation will provide a bursary of £4,000 to cover travel and accommodation, while *The Economist* will pay a small weekly stipend. The 1998 prize will be an internship at the FT.

Entries, by the closing date of June 27th, should be sent to: The Editor (Nico Colchester prize), *The Economist*, 25 St. James's Street, London SW1A 1HG.

The foundation for this prize has been established jointly by the Halifax bank, the *Financial Times* and *The Economist*. Anyone wishing to make further donations to the foundation may write to the Nico Colchester Foundation trustees, c/o the Editor, *The Economist*.

Brussels policy on reducing greenhouse gases 'unworkable'

By Richard Murray-Bruce and Leyla Boulton in London

The European Union's attempts to persuade other developed nations to agree similar cuts could block agreement on a treaty to reduce emissions at international negotiations in Kyoto, Japan, in December.

"The toughest policy may not be the best to the long run for achieving lasting global reductions," he said. The EU position failed to take account of the particular geographic and economic challenges faced by other developed countries.

EU environment ministers are hoping next Thursday to finalise a plan to reduce greenhouse gas emissions by 10 per cent across the 15-nation bloc by the year 2010 - and by 15 per cent if other developed nations follow the EU example.

But Mr Fisher said the EU's insistence that other developed nations agree similar cuts could block agreement on a treaty to reduce emissions at international negotiations in Kyoto, Japan, in December.

"The toughest policy may not be the best to the long run for achieving lasting global reductions," he said. The EU position failed to take account of the particular geographic and economic challenges faced by other developed countries.

Mr Fisher said Australia was particularly alive to the economic threat posed by its Asian trading partners, such as Korea, most of which will not face any obligations at the Kyoto negotiations. He warned that energy-

intensive industries would simply move from developed countries such as Australia which undertook reductions to areas not burdened by such obligations. The answer, he said, was to reach agreement that would help developing countries to cut their emissions too.

The EU position was also attacked as inflexible by Mr Michael Grubb, a London-based member of the Intergovernmental Panel on Climate Change, which researches global warming on behalf of governments. He urged the EU to agree to US proposals to incorporate a system of tradeable emission quotas into any agreement reached at Kyoto.

"The quota trading is essential for American signa-

ture and strengthens the environmental impact and efficiency of what is agreed," he said. The quota-trading system would enable cuts to be made in the most cost-effective manner possible, by allowing some of the reductions to be made in poorer countries where they were cheaper to achieve. Greenhouse gases cause global warming wherever they are generated.

But Mr Grubb also described Australia's desire for a "country by country negotiation" on greenhouse gas reductions as impractical. The EU argues that western nations must first show willingness to make sacrifices of their own before seeking to involve poorer countries in such schemes.

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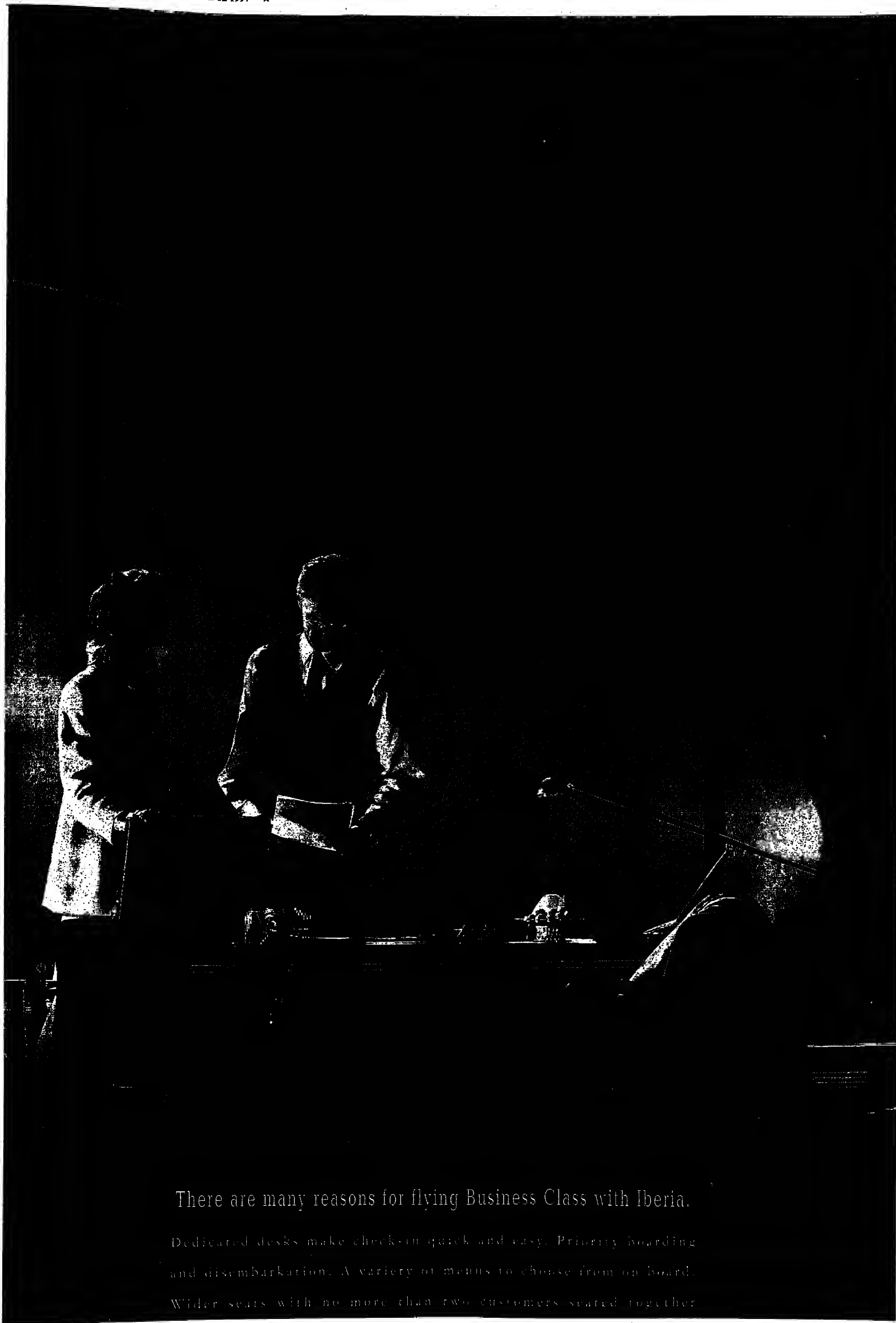
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NEWS: WORLD TRADE

Global telecom charges set to tumble

By James Kynge
in Singapore

The cost of international telephone calls should fall faster on average over the next five years than it has over the last five, Mr Pekka Tarjanne, secretary general of the International Telecommunication Union (ITU) said yesterday.

New technology, deregulation and global competition are combining to force telecommunications companies to cut tariffs on

international calls, which for some companies earn margins of several hundred per cent.

"The hope is to create an equitable, cost-based system which is in agreement with market forces," Mr Tarjanne said. "Even those rates which are the lowest in the world at the moment are too high."

ITU officials explained that "cost-based" means a margin of just several percentage points above the cost which a telecoms com-

pany incurs when a customer makes an international call. Even telecoms companies with a reputation for efficiency, such as Singapore Telecommunications, the biggest company listed on this city state's stock exchange, earn more than 20 per cent on international calls.

Mr Tarjanne, who ends nine years as head of the world telecoms regulator at the end of 1998, said the system of world tariff accounting was obsolete and should

be re-negotiated multilaterally over the next few years. Compensation would need to be considered for less developed countries that were not ready for rapid liberalisation.

Under the accounting rate system, telecoms companies pay a set amount to the telephone operator in the recipient country for the completion of a call. But now "callback" services, which allow people to have their call "originate" from relatively cheap countries such

as the US, have wreaked havoc with the system.

This has meant that many more calls appear to originate from the US than actually do, thus cutting payments from overseas telecoms companies. In the US in 1995, outgoing calls outnumbered incoming calls by 8.64m minutes and US carriers paid out a net \$5.1bn to foreign telecom companies.

This prompted the US regulator, the Federal Communications Commission, to

propose a unilateral decrease of around 50 per cent in its accounting rate, raising protests from many telecommunications companies around the world.

Internet telephony, in which international voice calls are made over the Internet for the cost of a local call, is also challenging telecoms companies to cut international rates, company executives said. Although the volume of such telephony remains modest, it is growing fast.

EU appeals against WTO banana ruling

By Frances Williams
in Geneva

The European Union yesterday appealed against a World Trade Organisation ruling that its banana import regime violates fair trading rules.

The panel report, circulated to WTO members last month, upheld a complaint by the US, Ecuador, Guatemala, Honduras and Mexico that the regime unfairly discriminated against their producers and banana marketing companies. The WTO's appeals body must make a definitive ruling within 90 days.

The EU's complex banana import system, introduced in 1993, grants privileged access to bananas from African, Caribbean and Pacific (ACP) countries under the Lomé Convention. Caribbean states say their banana-dependent economies face calamity if these privileges are dismantled.

The WTO panel did not take issue with duty-free preferences for ACP countries which are covered by a WTO waiver granted in 1994. However, it found fault with various aspects of the licensing system under which import quotas are allocated.

Appellate body rulings are binding unless WTO mem-

bers decide by consensus to reject them. Two panel reports by the WTO's predecessor, Gatt, also found against the EU's banana import regime but Gatt's weaker dispute settlement procedures allowed Brussels to block any remedial action.

If the WTO's appellate body rules against the EU, as most trade experts expect, the EU will have to comply with its recommendations, or compensate trading partners for trade losses or face WTO-authorised trade sanctions.

● The WTO's balance of payments committee considering a timetable for eliminating India's import controls yesterday decided to adjourn "for a period of reflection" after India and its western trading partners reached stalemate. The meeting, due to resume on June 30, must bridge the gap between India's proposal for a nine-year phase-out and the demand of the US, EU and others for a period of no more than two or three years.

● The US warned Brazil yesterday that it was considering a WTO challenge to new import financing restrictions which have reduced access by importers to short-term credit.

Developing countries attack move to link labour standards to trade

ILO chief comes under fire

By Robert Taylor,
Employment Editor

Mr Michel Hansenne, director-general of the International Labour Organisation, yesterday faced strong criticism from developing countries which oppose efforts to link core labour standards with international trade.

Colombia yesterday delivered to the ILO conference in Geneva the "response" to Mr Hansenne's proposals on standard-setting and globalisation on behalf of the group of non-aligned nations (113, plus five observers including China).

Opposition was mobilised by the Egyptian government, backed by delegates from African and Asian countries, which accuses the director-general of favouring a protectionist strategy.

The developing countries' response contends that Mr Hansenne's argument - set out in his report on standards and globalisation published earlier this year - is inherently flawed.

"It [Mr Hansenne's report] introduces an untenable link between labour standards and trade which we do not accept," says the document.

"The ILO has no role with regard to the multilateral trading system nor is it mandated to promote or impede globalisation." The governments involved do not want the ILO to take on the role suggested after last year's



Michel Hansenne: accused of flawed arguments

Popperfoto

World Trade Organisation Singapore conference that trade and labour rights should be dealt by the ILO.

The response document argues that developing countries remain committed to internationally recognised core labour standards as long as these are "voluntarily ratified" by states. Mr Hansenne wants an extension of those standards to countries which have not signed the conventions. This would set "an unacceptable legal precedent", according to developing countries.

The ILO should pursue labour standards in their

own right "as an integral part of the social progress of societies, recognising them as benchmarks in the process of development", argues the document. The ILO should assist in the progressive attainment of higher standards of labour welfare by focusing on all areas of its work - standard setting, technical co-operation and analysis of labour trends - giving due regard to the stage of social and economic development reached by each country, the document says.

It also describes as "unacceptable" Mr Hansenne's

proposal for an annual ILO report on social progress, saying it "flows from flawed premises and linkages".

"The implication is the ILO would determine what is the 'acceptable' level of comparative advantage and which countries are converting the benefits of liberalisation into social progress."

The director-general's call for voluntary "social labelling" of products to show they were made in countries with accepted labour standards was also rejected by the developing countries.

Mr Hansenne's suggestion the ILO should carry out "reliable and legally independent" inspections in countries to see they are upholding labour standards is also opposed.

"There is no empirical evidence to support the view there is a link between trade liberalisation and labour standards", insists the document. "The thesis that low wages in developing countries are responsible for loss of jobs and lower wages in the developed countries has been refuted by many authoritative analyses," the response says.

During the conference, industrialised countries have generally expressed support for Mr Hansenne's main proposal - that ILO members should commit themselves to core labour standards in a solemn declaration next year and agree a suitable monitoring mechanism.

WORLD TRADE NEWS DIGEST

Bulgaria acts on music piracy

Bulgaria, one of the world's largest sources of illegal compact discs, embarked on a crackdown on music piracy yesterday when its first court case against unauthorised CD production began. Mr Marko Mihailov, owner of SMC, a compact disc production plant, was accused of breaching copyright law by supplying illegal CDs during 1995 and 1996.

The case follows strong lobbying by the International Federation of the Phonographic Industry, which represents the world's record companies. The IFPI urged the Bulgarian authorities to curb music piracy and in response Bulgarian police referred 83 cases of suspected copyright infringements to the prosecutor's office last year. In March the interior ministry staged a series of nationwide raids in which thousands of CDs were confiscated. The IFPI estimates that 15m illegal CDs are produced in Bulgaria each year, one in eight of those sold worldwide. Alice Rausthorpe, London

Investment in Indonesia hit

Uncertainty in the run-up to last month's general election in Indonesia prompted a 36 per cent fall in the number of approved foreign investment projects in the first five months of this year, compared with the same period a year ago.

The value of foreign investment approvals in the first five months of this year fell 25.5 per cent to \$13.7bn compared with the previous year. But the investment minister, Mr Sanyoto Sasrowardoyo, said the steep decline was only temporary and that foreign investment approvals were set to pick up again. "A drop usually occurs prior to the general elections [and is] nothing to worry about," he said. Manuella Saragosa, Jakarta

Morocco agrees Efta pact

The European Free Trade Association (Efta), which groups Norway, Switzerland, Iceland and Liechtenstein, has agreed a free trade pact with Morocco, the first with a North African country. Efta's small but rich members aim to expand their network of free trade agreements in the Mediterranean region to ensure that their companies take part fully in the Euro-Mediterranean free trade zone initiated by the European Union and due to be completed by 2010. Efta states already have free trade deals with Israel and Turkey as well as with 10 central and eastern European nations. Negotiations with Tunisia are well under way and talks with Cyprus and Malta are due to begin later this year, according to Efta.

The accord with Morocco, due to be signed at Efta's regular ministerial meeting in Geneva next week, is "asymmetric": Efta members will scrap duties and other trade restrictions immediately on entry into force while Morocco has a 12-year transition period and a variety of safeguards. Frances Williams, Geneva

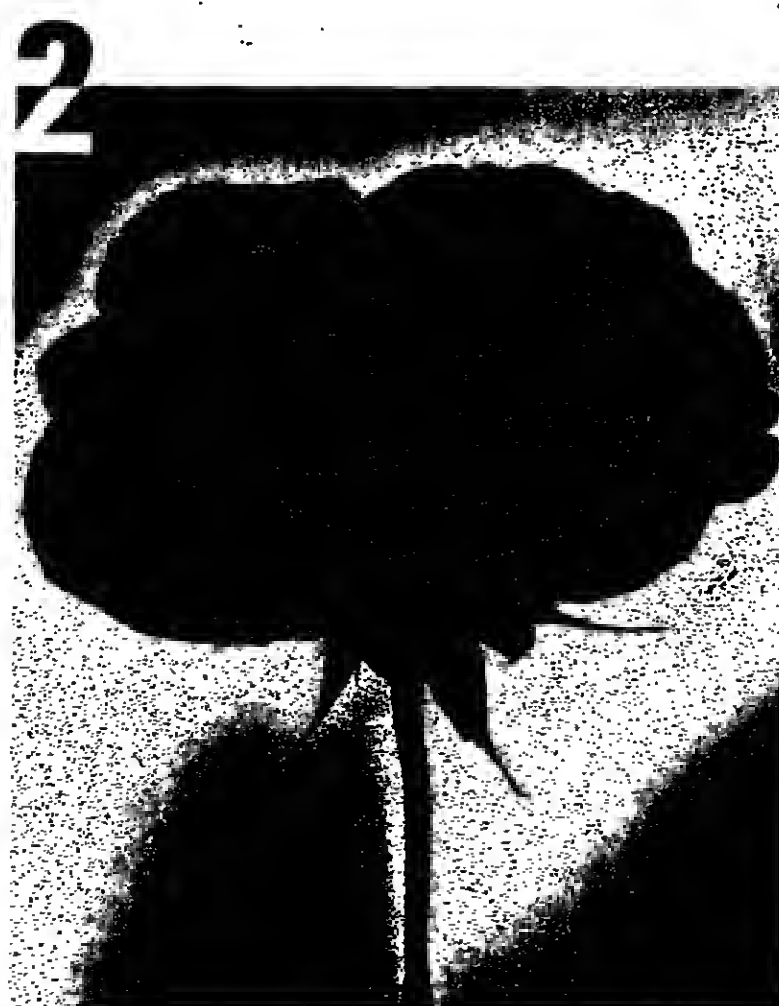
Bayer expands in Vietnam

Bayer, the German drugs and pharmaceuticals group, intends to broaden its operations in Vietnam. It plans to invest DM25m (\$14.4m) by 2001, mostly to bolster its presence in agriculture. It will manufacture of crop protection products in Vietnam for the first time and will increase output of animal medicines.

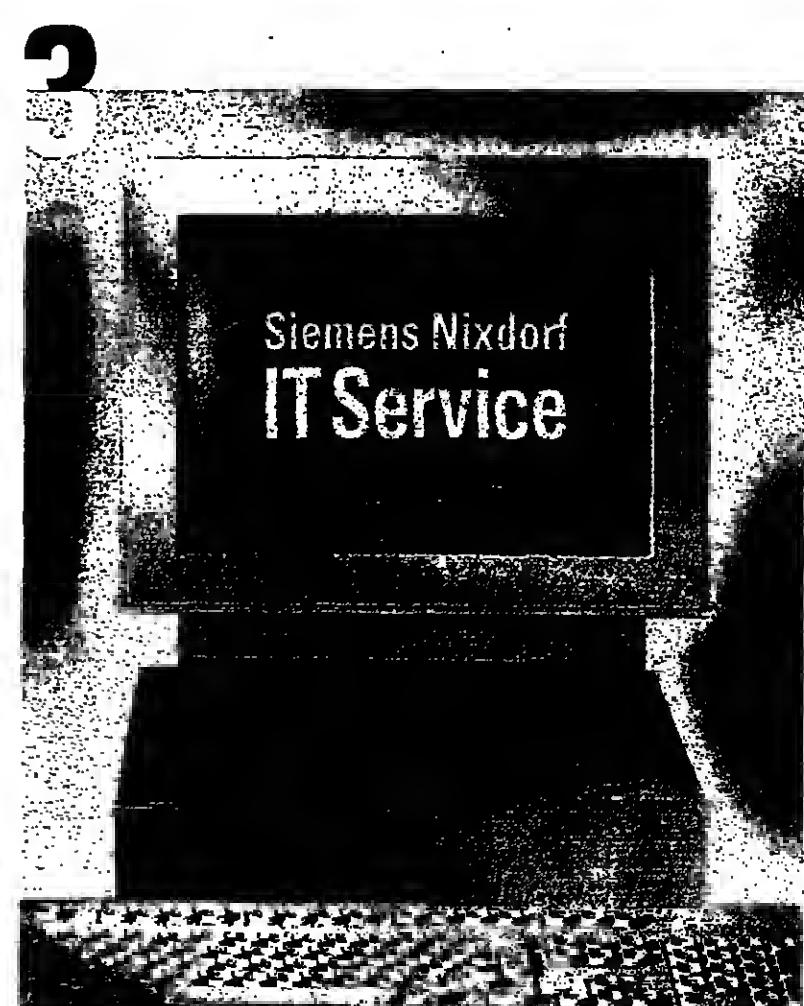
Bayer already makes pharmaceuticals for human use in Vietnam. Graham Bouley, Frankfurt

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Government aims to secure constitutional agreement in Northern Ireland by May 1998

Sinn Féin is given final chance for talks

By John Kampfner in London and John Murray Brown in Dublin

The UK government yesterday gave Sinn Féin a final chance to secure a ceasefire from the Irish Republican Army and insisted that it wanted a constitutional settlement for Northern Ireland agreed by next May.

Ms Mo Mowlam, chief minister for Northern Ireland, said in the House of Commons that multi-party negotiations chaired by Mr George Mitchell, the former US Senate majority leader, were in danger of "running into the sands". The talks resumed last week after

almost a year without progress. Ms Mowlam said it was still the government's desire to have Sinn Féin, the IRA's political wing, at the peace talks but only if there was an unconditional ceasefire and a clear commitment to democratic principles.

Describing recent talks between government officials and Sinn Féin as "clarificatory", Ms Mowlam told MPs: "We will not go on indefinitely. We have no intention of doing that at all. I am minded to have one more meeting." She confirmed that Sinn Féin had asked for further talks on Tuesday.

"Sinn Féin have been put on

very firm, full, final notice," said a senior UK official. "It's over to them, and we're not bluffing."

With despatch on both sides of the sectarian divide ahead of the traditional summer marching season, ministers are becoming exasperated at the lack of movement by the IRA and Sinn Féin.

Contacts resumed on the instructions of Mr Tony Blair soon after he became prime minister last month. Two preliminary meetings were held, ostensibly to sound out the prospects for an end to violence, but British officials detected no flexibility from Sinn Féin.

Ms Mowlam said she wanted the

multi-party negotiations to begin dealing with substantive issues in September and to be wrapped up by May 1998. A deal agreed by the parties would have to be ratified at Westminster and in a referendum within Northern Ireland.

"This is the time when we hope a settlement and final vote and referendum could be held," she said.

By setting a deadline for Sinn Féin to meet British terms for an unequivocal ceasefire to join the talks - and by making those talks finite - the government is serving notice that it will not allow the IRA to derail moves to devolve more powers to Northern Ireland,

allowing limited involvement by Dublin.

Meanwhile, Mr Alban Maginness, the Lord Mayor of Belfast, the Northern Ireland capital, appealed for community leaders to show restraint following the killing of Mr Bill "Basher" Bates, a former anti-republican "loyalist" terrorist, who was released from prison last October. Security officials said the killing of Mr Bates, who was known as the Shankill Butcher and had spent nearly 20 years in jail for some of the most horrific murders witnessed in Northern Ireland, may have been the result of a grudge killing.

Brown aims at 2.5% target for inflation

Robert Chote examines the dilemmas faced in setting a rate

Several industrial countries have adopted formal targets for inflation in recent years, usually because attempts to target the exchange rate or money supply have ended in ignominious failure.

Britain is no exception: in his first Mansion House speech tonight, Mr Gordon Brown, the chancellor of the exchequer, will have the luxury of outlining his approach to inflation targeting. He has already revolutionised monetary policy-making in Britain by surrendering control of interest rates to the Bank of England, the UK central bank. He will, however, continue to set the precise inflation target which the Bank is obliged to pursue.

Mr Brown's reluctance to concede "goal independence" to the Bank is in contrast to the attitude of most other inflation targeters. In Australia, Sweden and Finland the target was announced by the central bank without explicit government endorsement. In New Zealand and Canada it was agreed by the central bank and finance minister.

Mr Brown said he will confirm the inflation target each year in his annual Budget speech, but he will lay out his thinking tonight. In other countries, omissions

from the target inflation measure include government subsidies, house prices, big import price changes and "volatile items".

The choice of the target level is more problematic. Under Mr Kenneth Clarke, chancellor in the former Conservative government, the long term target was set at 2.5 per cent or less, in the expectation that this would keep inflation between 1 and 4 per cent most of the time.

One problem is the asymmetry of the "2.5 per cent or below" formulation. Mr Mervyn King, the Bank's chief economist, has argued that this is operationally equivalent to targeting a specific rate of inflation slightly below 2.5 per cent so that the target is met on average over the long term.

But a newly independent central bank with credibility to establish might regard 2.5 per cent as a ceiling, rather than the Spanish inflation target is interpreted (although it has never been hit). It might therefore err on the side of caution by targeting a still lower inflation rate.

But Mr Brown is keen the Bank should not constrain economic growth unnecessarily and be therefore wishes undershooting to be discouraged as much as overshooting. This suggests setting the target as a range



bounded at both ends (as in New Zealand) or a specific rate (as in Finland).

In a rare public expression of unease with government policy, Sir Terry Burns, the Treasury permanent secretary, expressed support for the Finnish option in 1995. The Finns favoured a specific point target because they felt that people would expect the authorities to aim

for the ceiling of a range rather than its mid-point. Research by the Bank also suggests that there is only a 50 per cent chance of hitting a 1 to 4 per cent inflation target because of the unavoidable economic disturbances which push inflation away from the target once it is too late to do anything about them.

In the end, the chancellor has decided to set a single point inflation target. But

removing "or below" from the "2.5 per cent or below" formulation may look like a loosening of the target to which financial market pundits might object.

He was tempted to reassure the pundits by setting the target at 2 per cent - around which the Canadian, Swedish and Finnish targets are centred - but in the end chose 2.5 per cent.

Lex, Page 14

Anti-EU contender is urged to quit race

By James Blyth Political Correspondent

Mr William Hague, one of the three remaining candidates for the leadership of the opposition Conservative party, yesterday sought to beef up his campaign by allowing his lieutenants to call for the withdrawal of Mr John Redwood, the sole contender of the fiercely Eurosceptic right wing.

Mr Hague's camp insisted that Mr Redwood, who came third in the first round of the contest on Tuesday, had no chance of winning and should quit the race, in which voting is restricted to the party's MPs. The Hague campaign was strengthened late on Tuesday when the two lowest-scoring of the original six contenders said they would support it.

They were Mr Michael Howard, who was home secretary in the Conservative government ousted on May 1, and Mr Peter Lilley, former chief social services minister. Mr Hague, who at 38 the youngest contender, was Mr Redwood's successor as chief minister for Wales in the government of Mr John Major. Mr Redwood left the government in 1995 to challenge Mr Major for the party leadership and was defeated.

Mr John Major, a leading figure in Mr Hague's campaign, insisted yesterday there was "no way" that Mr Redwood - who scored 27 votes out of 164 - could win. "I think it would be in the interests of the party quite honestly to settle this as quickly as we can and that could be done next Tuesday if he would stand down," he said.

Mr Redwood retorted by claiming that Mr Hague - who scored 41 votes - was a "vague" politician whose views on a range of issues were unknown.

Mr Hague's progress has been patchy. Seen well before the May 1 general election as the long-term choice, his prospects increased markedly when Mr Michael Portillo, former chief defence minister, lost his seat in the Commons and Mr Michael Heseltine, the former deputy prime minister, withdrew from the leadership race because of illness.

Referring yesterday to the possibility of sterling entering a single currency, Mr Redwood said: "William Hague's problem will go away. Euro may never fly, but nor will an ostrich Conservative party."

Mr Kenneth Clarke, who led the first ballot on Tuesday with 49 votes, yesterday appeared to be building on his marginal lead amid speculation that some MPs who supported Mr Howard and Mr Lilley in the first round would vote for him.

Burden to rest with central bank chief

By Robert Peston and Wolfgang Münchau

A tough system for holding the governor of the Bank of England personally accountable if he fails to meet the government's inflation target will be announced today.

Each time inflation is 1 per cent above or below the new target rate, the governor, Mr Eddie George, will have to write an open letter of explanation to the chancellor of the exchequer, Mr Gordon Brown, saying what the Bank intends to do about it.

The tough monetary policy arrangements will take effect immediately, following last month's transfer to the Bank's newly created monetary policy committee of control over interest rates. Mr Brown is also expected to announce that his first inflation target - subject to revision in future budgets - will be 2.5 per cent.

Following criticism from many economists that the previous government's target of "2.5 per cent or less" would encourage the Bank to adopt an excessively defla-

tory stance, Mr Brown has decided that the Bank should aim at an inflation "point" rather than a range.

UK unemployment has fallen to the lowest level for seven years, leaving the City of London sharply divided over the impact on inflation and interest rates.

Claimant unemployment in May was down by 18,400 to 1.64m, the lowest level since September 1990. The headline rate of unemployment was 5.8 per cent, down from 5.9 per cent in April. Financial markets had

expected unemployment to fall by almost 40,000. The reason behind the discrepancy was the fading impact of the Jobseekers' Allowance, which was introduced last October and which gave rise to distortions in unemployment statistics.

The introduction of the JSA, under which claimants need to show that they are actively seeking work, has resulted in a fall in the number of registered unemployed, as fraudulent claimants came off the register. The Office for National

Statistics said yesterday that the change in the benefit regime no longer affected the unemployment headline count.

Other data released yesterday included average earnings, which went up by 4.5 per cent during April. This was made up of a 4.75 per cent rise in the service sector and a 4.25 per cent increase in manufacturing.

Manufacturing productivity was 1.9 per cent higher in the three months to end-April compared with a year earlier.

Curb ordered on creative accounting

By Jim Kelly, Accountancy Correspondent

Company directors are to be deprived of one of the most popular tools of creative accounting, the so-called "big bath" provisions to manage reported profits.

Some companies manipulate results by setting aside money in the accounts to cover future costs, boosting profits later when all or

some of the money is not needed.

"All too often the provision is wildly excessive and conveniently finds its way back to the profit and loss account in a later period," said Sir David Tweedie, chairman of the Accounting Standards Board.

The ASB, which has already limited the discretion given to directors on provisions linked to acqui-

sitions, believes the new draft standard will finally end the abuse. "That's all the doors shut," said Sir David.

He added some companies combine provisions covering several years' expenditure, including items related to ongoing operations, and report them as "big bath" exceptions in the accounts. Often they are listed as "reorganisation costs". Companies complained

when the reform plans were first aired in 1996 but the ASB seems unmoved. Under the new rules, provisions would be recognised only when the board was obliged to go ahead with expenditure, not just when it intended to. This would mean a simple board decision to reorganise a company would not be sufficient to justify setting aside money to meet the costs.

"An entity is demonstrably committed when it has a detailed plan for, and cannot realistically withdraw from, a reorganisation," said the ASB.

"Users of accounts can't be expected to be mind-readers," said Sir David. Amounts included in provisions must be "realistic and prudent" and each type of provision specifically disclosed and measured.

Battle lines drawn on electricity competition

The energy minister is to meet privatised companies to press them on progress, says Simon Holberton

Mr John Battle, the energy minister, will be putting his reputation at stake as well as demonstrating his commitment to electricity competition for the country's 35m consumers when he takes the chair at today's emergency summit with Britain's 14 electricity suppliers.

Mr Battle has made clear to the industry and its regulator, Professor Stephen Littlechild, that he takes a close interest in energy competition.

One of his first ministerial decisions was to call for a review from Prof Littlechild of progress in bringing competition to the electricity industry. The review made public what everyone already knew - that only a handful of companies would be ready by April 1 next

year and that the rest would shuffle to the starting line in the months that follow.

The minister insisted that the review's findings be made public and that the names of the companies holding up the 1998 initiative be published. Government officials said the regulator was acting on ministerial orders and that Mr Battle was keeping a close eye on how he performed.

Such a high profile commitment to the competition initiative is something his predecessors in the Conservative government avoided. They were content to leave the issue - and responsibility for its success or failure - in the hands of the regulator and the companies.

Industry chiefs have welcomed Mr Battle's interest, but they doubt

that the meeting is going to be much more than an exercise in exhortation.

Mr Battle appeared to pre-empt the outcome of the meeting when he issued his invitation on May 18. He said then that he wanted "to hear their comments on [Prof Littlechild's] proposals" and assurances that they will play their full part in making sure this plan works.

One industry chief says: "I think the risks he is running are very considerable. He's asking us to agree to Littlechild's plan but how does he know the plan will work? What's his mechanism for ensuring that in a month's time we're still on track?"

"This is a major project that needs a good project manager and

a credible project plan: it currently has neither. The question is: does anyone have the courage to tell Battle that on the 18th?"

Offer, the regulator, says delays to the competition initiative are primarily the result of the complexity of the information technology needed by the project.

However, IT professionals say they are being made the scapegoats for a poorly specified and led project.

"I would not blame the technology," says Mr David Ingram, senior manager at Cap Gemini, the IT consultancy responsible for a number of big electricity projects. "It is the lack of direction that is causing people to flounder."

As if these problems were not

enough, this week's report on the market power of the big generators by London Economics, the consultancy, has given Mr Battle further food for thought.

It said electricity competition would fail to deliver gains to retail consumers unless National Power and PowerGen, the privatised generators, were forced to sell more generation equipment.

It also said the two should be stopped from making long-term contracts with electricity suppliers because these deals may inhibit competition in generation and lock in high-priced power for consumers.

But London Economics' warning about developments in the contract market is something Mr Battle may well want to monitor.

UK NEWS DIGEST

Call for EU tax on aviation fuel

The government is to call for a tax on aviation fuel across the European Union as part of its commitment to limit greenhouse gas emissions. MPs were told yesterday that the government would support moves by the Dutch presidency of the EU to consider Europe-wide action.

But Ms Angela Eagle, a junior environment minister, said it was important to press for international agreement so as not to disadvantage UK industry.

Mr John Gummer, who was chief environment minister in the former Conservative government, said in the House of Commons yesterday: "We have to start in Europe - we have to start everything in Europe. The EU is crucial to the future of the environment."

Under an international agreement, aviation fuel is currently exempt from tax. David Wighton

RAIL LINKS

New station for Luton airport

Construction will start next month on a £12m (\$19.5m) rail station to serve the rapidly growing Luton airport to the north of London. Railtrack announced yesterday. Railtrack owns the infrastructure of the former state rail network. The station, the biggest to be built in Britain for many years, will have airport check-in and baggage handling facilities and parking space for 1,000 cars. It will be on the Midland Main Line 1.6km south of the existing Luton station, five minutes from the M1 motorway.

It is intended to open in a year and will provide direct links to the City of London, Gatwick airport and Brighton on the south coast of England. The cost of the new station will be met by Railtrack with the help of a £2.5m government grant. Charles Batchelor

PETROL RETAILING

Watchdog probes pricing policies

The Office of Fair Trading is to investigate allegations of predatory pricing of petrol by Esso's Esso subsidiary through its PriceWatch scheme. The investigation will be part of a general inquiry into petrol retailing. The OFT has appointed National Economics Research Associates, the independent consultants, to survey industry participants and consumer groups to determine the effects of low-cost supermarket outlets.

Esso's response has been PriceWatch, in which its dealers are allowed to sell petrol at prices as low as other local competitors. The OFT move was welcomed by Esso retailers, who say that the company has passed the costs of price competition to them by raising rents sharply and cutting margins on each litre of petrol sold. Mr James Frost, chairman of The Frost Group, the UK's biggest independent wholesaler and retailer, called the review "long overdue". Institute of Petroleum figures show that 1,496 sites run by independent retailers closed in 1996, the first full year of PriceWatch. "I predict a further 1,500 closures in 1997," Mr Frost said. Norma Cohen

STATE HEALTH SERVICE

Hospitals warned on emergencies

The head of the state health service yesterday ordered hospitals not to close to emergencies next winter and warned that the service might be facing its toughest year financially for a decade. Health authorities and trusts, who on provisional figures overspent by more than £300m (\$480m) last financial year, must balance their books this year, Mr Alan Langlands, chief executive of the National Health Service, told the annual conference of the Institute of Health Services Management. "That will require some very tough decisions on priorities," he said. The warnings implied a further sharp increase in the already rising waiting times for non-emergency operations, jeopardising the Labour government's commitment to take 100,000 patients off waiting lists. Nicholas Timmins

BCCI COLLAPSE

Liquidators' fees reach \$218.7m

Some \$218.7m in fees has been paid to liquidators of the collapsed Bank of Credit and Commerce International, according to their latest report to the government. The liquidators at the accountancy firm Deloitte & Touche were paid \$15.1m in the fifth year of the liquidation to January 15 1997 compared with \$16m in the previous year. Fees have dropped in recent years as litigation has replaced investigation. Creditors have begun to receive dividends from the liquidation - so far up to 24.5 per cent, amounting to \$20m. Further dividends are expected. BCCI collapsed in 1991 with debts of more than \$11bn following the biggest fraud in banking history. Jim Kelly

LLOYD'S OF LONDON

Bankruptcy order for Name

Lloyd's of London has served a bankruptcy order on a former Name who refused to pay his debts to the insurance market. Mr Brian Rowlands, a company director who owns several betting shops in north-west England, owed Lloyd's \$262,000 (\$101,000) but did not accept the terms of the society's recovery plan last year. He was one of about 1,000 Names who have recently received writs from Lloyd's, which is seeking to recover \$630m in unpaid debts. "We believe he has the funds to settle his debts, but he says he hasn't the money to do so," said a Lloyd's official. Christopher Adams

INVESTMENT

Pressure container plant planned

MTK Containers, owned by the Geneva-based investment company MTK Holdings, is to build a factory on a 2.5ha site in the north-east England city of Sunderland. The plant will manufacture stainless steel pressure containers for the bulk distribution of liquids. MTK, which will begin production by April 1998, is intended to become a leading global supplier. The British government is giving £750,000 in state aid towards the project, which is receiving a similar amount from economic development bodies in the region. Chris Tighe

CONTRACTS & TENDERS

REPUBLIC OF TUNISIA MINISTRY OF EQUIPMENT AND HOUSING

Unité de Réalisation de la Cité Olympique
7 Novembre 1987 à Radès

International Tender No 08 Postponement of closing date

The Housing and Equipment Ministry's Unité de Réalisation de la Cité Olympique 7 Novembre 1987, informs parties involved with international tender No 08, relating to the technical control of the studies and construction of a 60,000-spectator football stadium at the Cité Olympique, Radès, that the closing date initially set for June 17, 1997, has been postponed to June 24, 1997.

TECHNOLOGY

Cinema audiences across Europe will soon get a chance to see Steven Spielberg's *The Lost World*, the sequel to *Jurassic Park*, which broke box-office records when it opened in the US last month.

On-screen is yet another battle between dinosaur and man: off-screen the film's sound system is engaged in a battle for the next generation of cinema sound formats.

In the same way that the music industry has moved from analogue vinyl LPs to digital compact discs, so cinema sound is moving into the digital age. These new multi-channel digital sound formats can produce amazing sound effects - spacecraft can appear to scream across the auditorium. But the film industry is faced with three different and incompatible digital sound systems.

It is all a far cry from the early days of cinema. Attempts were made to link the film projector with a gramophone record, but the results were often less than successful. The breakthrough came in the late 1920s, with the arrival of optical sound recording, which records the soundtrack photographically along the edge of the film. A special reader inside the film projector converts the optical soundtrack into an electrical signal, and the system is still widely used today.

Experimental stereo sound tracks were produced during the early 1930s, and in the latter part of the decade, Walt Disney produced the film *Fantasia*, with multi-channel stereo sound. But *Fantasia* proved to be the exception rather than the rule. Stereo sound was largely ignored by the film industry, although it was briefly revived in the 1950s with the advent of wide-screen formats such as Cinemascope.

In 1976, the Californian audio company Dolby Laboratories introduced a system that revolutionised cinema sound. Its Dolby Stereo system uses the optical recording system to record four-channel sound - left, centre, right and surround - on to a 35mm film optical stereo soundtrack. The system works by blending the two extra tracks with the conventional left and right channel stereo channels. A decoder then unmixes the four channels and feeds them to speakers around the cinema. Dolby Surround sound has become the de facto standard for analogue cinema sound, and more than 7,000 films have used the system.

During the 1980s, there was a growing interest in cinema sound. "People were getting more



Window shopping: the screams in *The Lost World* are all the more realistic with digital sound

George Cole reports on the different digital audio systems slugging it out in cinemas around the world

Sounds like a standards battle

educated and actively seeking theatres that offered good sound," says Steve Taylor, chief executive of the California-based Dimension Audio. LocustFilm, the company behind the *Star Wars* films, introduced a new cinema standard called THX. These cinemas have amplifiers, speakers and acoustic properties that conform to a minimum standard.

In the 1980s, companies were also developing cinema digital sound systems. "The existing analogue system achieves a sound quality that is probably good enough for most people. But digital is a sexy word and that's what the public now expects," says Ian Allen of Dolby Laboratories.

The shift to digital systems has not been problem-free. In 1990, Kodak and US-based Optical

Radiation introduced Cinema Digital Sound (CDS), but it worked by replacing the conventional optical soundtrack with digital audio. Film companies and cinemas did not like having to work with two sets of film prints - one for theatres with CDS equipment, and another for those without - and so CDS died.

In contrast, all cinema digital sound formats share one common feature: they are fully compatible with modern analogue sound systems. They also leave the conventional optical soundtrack untouched and use it as a back-up if the digital system fails. The digital systems use readers that can be attached to most existing 35mm film projectors.

The Dolby Digital system offers six sound channels - left, centre,

right, left surround, right surround and super bass - which are kept separate or discrete, giving the sound more focus. Dolby Digital uses a reduction system to shrink the amount of data that needs to be stored on a film print. The digital soundtrack is squeezed in the space between the sprocket holes down the side of the film print.

Sony Cinema Products Corporation has developed its own system, Sony Dynamic Digital Sound. This offers no fewer than eight channels of sound - the six mentioned above, plus left centre and right centre channels - which are placed on two continuous strips along the film edges. "Having the extra channels means that film mixers and directors can really let their creative juices flow when it comes to

creating the film soundtrack," says John Scarcella of Sony Cinema Products.

The third system, from Digital Theater Systems (DTS) harks back to the days when gramophones were played in cinemas. Whereas Dolby Digital and the Sony system place the digital soundtrack on the film print, DTS puts a six-channel soundtrack on to a CD-Rom. A time-code is photographically printed on to the film, giving each frame a unique identity number. When the film is projected, the DTS timecode is scanned by a reader and fed to the CD-Rom player. The time code synchronises the sound and pictures.

Chris Hollebome of DTS Europe says there are advantages in keeping the digital sound separate from the film. "If the film print gets damaged, the soundtrack can suffer." Having the soundtrack on a CD-Rom also means that it is easy to press discs with different languages - DTS has sold well in India, a multi-language country.

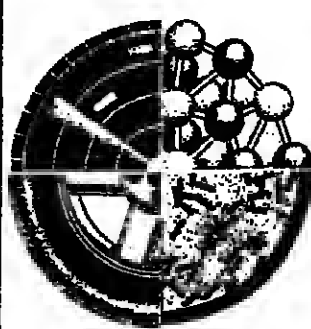
But Hollebome admits that there is still some resistance to handling two sets of media - film and CD-Rom - and there have been a few occasions when discs have been lost. But this has not stopped DTS from becoming the leading cinema digital sound format - putting the system on films such as *The Lost World* and *Jurassic Park* has helped to establish the format.

DTS claims that its system is installed in more than 10,000 cinemas around the world. Dolby says its system is in 9,000 theatres, and the Sony system is claimed to be in almost 4,000. A DTS system is also much cheaper to install - prices start from about \$5,000 (£3,700), about half the cost of the competing formats. Even so, most expect the film industry to stick with the three competing formats because all have strong supporters.

But are today's digital formats the ultimate in cinema sound? Allen believes so: "In a cinema you don't want to distract the audience from what's on the screen, and extending the sound possibilities could do this," he says.

But Dimension Audio has developed cinema-sound systems with up to 48 channels. The company uses multiple speakers to create what it calls a "sound tapestry". Each speaker is described as a "sound pixel", which - like the pixels on a television screen - forms part of a larger image, although in sound rather than video. "You're talking about a total immersion in sound," says Taylor. "It's all about making the cinema experience even better."

Worth Watching - Vanessa Houlder



An even sweeter spot for tennis

A former professional tennis player, Marshall McMahon, has designed a technique for stringing tennis rackets, which aims to enlarge the "sweet spot" - the small area at the centre of the racket head which gives the best response when the player hits the ball.

The Starmaker system consists of locks that fit into the holes in the racket head and which hold each string tightly in place, allowing each of them to be strung independently at a different tension. When all the strings are at their optimum tension - at settings calculated by computer - the area of the sweet spot is greatly extended.

Cogito, the maker of the system, says its advantages include greater tolerance of off-centre shots and a reduction in the high-frequency vibrations that may exacerbate problems such as tennis elbow. It also allows the player to combine spin and power. Cogito: Monaco, tel 37792256169; www.racquetscience.com

Background noise on borrowed time

The continuous hum of air-conditioning can be intensely irritating. ABB Flakt Products, part of ABB Engineering, has tackled the problem with a computer-controlled sound reduction system which uses sound waves to counter the effect of other sound waves.

The "anti-noise" technology can reduce noise levels by up to 10 decibels. It is particularly suited to relatively low-frequency noise, which has been difficult to deal with using available technology. The noise at the fan outlet is

measured using a microphone. A signal is sent to the computer, which calculates the signal required to cancel the original noise, which is then emitted through a loudspeaker. ABB Flakt Products: UK, tel (0)1203 368500; fax (0)1203 364499.

Liposomes give sensors an edge

Researchers at Sandia National Laboratories in the US are working on an ultra-sensitive sensor capable of detecting contaminants at a concentration of 1:10m. It could be used for tasks ranging from testing water purity in microchip factories to testing saliva for viruses.

The technique relies on the high sensitivity of microscopic fatty particles, called liposomes, to metals and other substances. The researchers trap the liposomes in "sol-gels" - a type of lightweight, silica-based material - where they become more stable and more sensitive.

The Sandia researchers are working on liposomal sensors that will be able to detect minute concentrations of lead, mercury and chromium. Sandia National Laboratories: US, tel 5058445189; www.sandia.gov

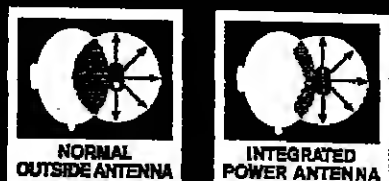
Cushioning the impact of epilepsy

People who suffer frequent attacks of epilepsy may have to wear protective headgear to protect themselves when they fall. But the usual protective devices - helmets with chin straps - are conspicuous and often unacceptable to the user.

A final-year student on a product design engineering course run by Glasgow School of Art and the University of Glasgow has designed a thin, lightweight cap made of carbon fibre that can be readily concealed by a hat or cap. Sensors are attached to the patient's head, which monitor electrical signals in the brain. When a seizure occurs, the change in the signals triggers the inflation of a small airbag contained within the carbon fibre cap, which cushions the impact with the ground. Glasgow School of Art: UK, tel (0)141 3534614; e-mail h.wood@gsa.ac.uk

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البريد الإلكتروني

Cinema/Nigel Andrews

The delights of drag

Gender-bending is a popular movie device, almost a rite of passage for any actor fancying himself as a light comedian: Gary Grant (*I Was a Male War Bride*), Jack Lemmon (*Some Like It Hot*), Dustin Hoffman (*Tootsie*) and others have cross-dressed to international marriage.

By contrast, when women gender-bend it has a twang of the bizarre, the erotic: funny-piquant as well as funny ha-ha, from Dietrich in *Morocco* to Shirley Temple in *Captain January*, whose alluring precocity in trouser roles steered film critic Graham Greene towards famous legal doom.

The Square Circle may be the first film to split its story evenly between two forms of travesty, male-female and female-male. Low on dull plausibility, this Indian movie is high on parable, adventure and charisma. Kidnapped from her family by a brother-keeper, twice gang-raped, and stoned on returning to her village, the film's heroine (Sonali Kulkarni) still manages to look like the subcontinent's answer to Olivia Newton-John. Even when wearing trousers and a fetching moustache, she is a sight for tired eyes.

The secret must lie in the supportive friendship of the transvestite troublemaker (Nirmal Pandey) she meets on a riverbank. This soft-spoken character, a sort of Bing Crosby in a sari, persuades her to dress in man's clothes, partly to discourage further Sabine incidents and partly to promote his and the movie's affirmative line in gender radicalism.

"Where Bollywood meets Satyajit Ray," proclaims the publicity for this hugely likable, star-happy tale. Directed by Amol Palekar from a script by Tamer Murari, an Anglo-Indian who honed his liberalism as a Guardian features writer, the film puts the *melos* back into melodrama and the sense (and sensitivity) into sensationalism. While racing between hairbreadth escapes, the

story still finds time to fill out two characters, a landscape - rocky sierras and bleak broad rivers - and a sense of the rich fragility of sexual identity.

If *The Square Circle* breaks new ground with its two cross-dressers for the price of one tale, *The Associate* gives us another possible first. The heroine (Whoopi Goldberg) drags up with no erotic frisson at all, nor any attempt at such. Permeated that she cannot succeed on patriarchal Wall Street without a male partner,

THE SQUARE
CIRCLE
Amol Palekar

THE ASSOCIATE
Donald Petrie

JOHNS
Scott Silver

MAMMA ROMA
Pier Paolo Pasolini

TRIGGER HAPPY
Larry Bishop

THE SHADOW
CONSPIRACY
George P. Cosmatos

preferably white, investment broker Goldberg invents and impersonates one.

Forget, as in the Indian film, dull probability. After hours in a gay friend's makeup room, Goldberg emerges looking like a genetic-engineering accident involving Marion Brando and a rhinoceros - yet still *le tout* New York is taken in by the epiphany. With its bred-in-the-bone male chauvinism it acclaims this man of the hour, and never mind the woman who put him there.

Theoretically a comedy, *The Associate* is about as funny as being hit over the head with the works of Shere Hite. Perhaps you cannot combine hilarity with so much feminist preachiness. Or

perhaps when women don male drag strictly for instructive satire, we feel cheated of that richer reverberation that female-male cross-dressing can carry - but that is probably as politically incorrect as the other targets here under tedious attack.

Sexual certitude is up for grabs all over the place. With enchanting innocence the Society of Film Distributors, in their weekly press show listing, print the title of Scott Silver's *Johns* as "John's". Clearly unfamiliar with the slang American term for a male prostitute's clients, they have assumed it is the gentile case of a gospel savior: though this is easy to do in an era where martyr bustlers clog up the screen from *My Own Private Idaho* to *Rustler White*.

John and Donner (David Arquette and Lukas Haas) are *Midnight Cowboy*-style buddies. They are anxious to quit the streets for a redemptive trip to "Camelot", a theme park somewhere in the Midwest. But like the heroes of the recent *Gridlock'd*, they cannot master either the money or the mental resources.

Silver's script and direction are thick with sanctimony, as the characters weave through penitential setbacks one long, long Christmas Eve. In case we still feel a few symbols short of a Christ story, Arquette gets to wear crown of thorns-style wounds on his forehead after a beating up in which he is pinned in crucifixion pose against a metal fence.

I prefer the New Testament parables of Pasolini's *Mamma Roma* and Larry Bishop's *Trigger Happy*. The first is a reissued Italian classic, with Anna Magnani magnificent as the ex-prostitute trying to better herself. She gleams, glowers, enarls and weeps; and that is just when she goes shopping. When her teenage son (Ettore Garofalo) declines into illness, delinquency and jail - "crucified" on a bench in strap-down solitary - she virtually burns up the screen. Pasolini choreographs a fabulous dance of

faces and landscapes in a Rome where the ruined walls of myth jostle with the derisory Utopia of its gleaming new suburbs.

The black comedy *Trigger Happy* has Richard Dreyfuss as Lazarus: sort of. Garbed in what appears to be a white winding sheet - or perhaps it is just the latest post-*Così Fan Tutte* Armani creation - the gangster emerges from mental hospital to re-bond with old sparring pals like Jeff Goldblum, who has stolen his girlfriend (Diane Lane), hit-man Larry Bishop (who also wrote and directed the film) and henchman cum funnyman Gabriel Byrne.

Byrne steals every scene that is not fastened down. A death-wish Yorick, he sees it as his vocation to twist his superior: a tendency that climaxes in a gloriously funny and appalling scene involving Paul Anka, the song "My Way" and Byrne all but burning up on stage as he riffs cheerful insults at a Dreyfuss frozen in incredulity. On this evidence, the Irish actor could obviously play Archie Rice, or the Fool in *Leah*, or just about anything. The film is fun too.

Charlie Sheen has moved back from comedy to screen drama, often a good move when no one is laughing at you. As a cub leading man for Oliver Stone he made *Platoon* and *Wall Street* before his downhill sequence of spoof movies including *Hot Shots* and *Hot Shots Deux*.

In *The Shadow Conspiracy* he scampers over Washington rooftops for two hours as a White House adviser seeking the villain or villains who are out to topple President Sam Waterston. Guns blaze, cars screech and Linda Hamilton of *The Terminator* continues her impersonation of an underused actress frantic for a good role. Sheen is capable and dashing. But it was surely ill-advised to have so many action set-pieces with so little actual plot. And if they were going to hire George Clooney, did they need composer Bruce Broughton's teeth-rattling score as well?



A sort of Bing Crosby in a sari meets the subcontinent's answer to Olivia Newton-John: Nirmal Pandey (top) as the transvestite and Sonali Kulkarni as the girl in 'The Square Circle'

Opera/David Murray

Singers v. strimmers



Jozik Koc and Nicole Tibbels in 'Le peacat' at Garsington

The new Garsington Opera season kicked off on Monday, not with a bang but amid a multiple roar. *Le peacat* ("The fisherwomen"), a gentle, unassuming 1770 opera by Haydn, never had to contend with an angry buzz of strimmers from neighbouring yards, let alone a private plane doing repeated flyovers. One expected an imminent kamikaze.

By the next night's *Così fan tutte* some kind of deal had been struck, and Mozart proceeded in peace. Just as well: opera patrons might have had unsuitable ideas about where to deposit their rubbish when departing. Yet the problem is still simmering away: Leonard Ingram's village neighbours should not be branded philistines because the open-air opera irks them, night after summer night - too loud and close-by to ignore, too obliquely distant to hear properly.

The situation is pure Beverly Nichols, though only older readers will remember him. I foresee new difficulties when Richard Strauss's *Die ägyptische Helena* is added to the repertoire in 10 days' time: Strauss makes a great deal more noise than Haydn or Mozart.

Le peacat was in fact somewhat muted, for its leading lady Patricia Bardon had lost her voice. She mimed her role on stage while Lore Lixenberg sang her arias (rather cautiously) from somewhere else, and - bizarrely - a gruff baritone voice delivered her recitatives from the pit. It did not matter so very

much: verisimilitude would count for nothing in this piece, with its fanciful catchpenny story and its pastiche characters.

The main thing is simply that everybody on stage should be nicely dressed, and should sing Haydn's amiable, undramatic score with lyrical charm. That they did the evening passed pleasantly, with generally stylish conducting by Wasfi Kani and many bright voices. If there is anything more to be found in the music, it was the baritone

Jozik Koc's sober Prince who suggested it best.

Così fan tutte offers much more, and the Garsington team did remarkably well by it. The ever-reliable Stuart Bedford conducted a fresh, eager performance (and drove everybody to a splendidly reckless presto in the first-act finale). There was a touch of Victoria Wood about Cara O'Sullivan's appealing Floridita, who rose passionately to her two grand arias. Janis Kelly made Dorabella a sophisticated, world-

ly-wise lady of mature allure.

Their naughty maid Despina was a surprise: a frank, earthy Spanish mezzo, young Silvia Tro Santafé, who repeatedly seized the action by the scruff of the neck and shook it up. Andrew Slater played Don Alfonso, whose bet at the start engenders all the intrigue, as a large-suited businessman - fourth vice-president of some solid company, perhaps - with a mock-moan cent air and a whole range of little moans and wines: a portly tease, no Memphisophiles.

The personable American tenor Jeffrey Lenz played up to the comedy with a will, and sang both a melting "Un aura amorosa" and a taut, angry "Tradito, schernito". Excellently matched with him, Richard Halton's Guglielmo romanced and fumed by turns, and supplied an invaluable lucid bass-line in the ensembles.

Ian Judge's production, in languid-casual modern dress, makes the chorus unusually active spectators on the scene (a decorative floor and a couple of doors - nowhere in particular), and defies Nicholas Till's programme-note by closing the opera neither with reconciliations for partner-exchanging, but with a collective explosion of rage and bitterness that sends everyone off alone, in his or her own direction. We can take that in our stride: the game is the same, however it sends.

Così fan tutte and *Le peacat* continue in repertoire at Garsington, Oxfordshire, until July 5.

Musical/Alastair Macaulay

Voice over matter

In *Always* Jan Hartley gives the most touching and beautiful singing I can remember hearing in a musical. Unfortunately, *Always* is a foolish, vulgar, and saccharine musical about Edward VIII and Wallis Simpson. Admittedly, even its silliest passages are preferable to the hard-nosed manipulations practised by the blockbuster musicals of Lloyd Webber and Boublil-Schönberg. As written by William May and Jason Sprague, *Always* is a harmless, foolish show that aims to please. But it is just another modern musical.

And the genre stinks. Hartley plays Wallis. She acts with great dignity and with delicate feeling; no mean achievement amid a show that asks her to end one solo scene by shouting "I love him!", another with "No, David, no!", and then to wrap up the whole show, after he has asked "Will you marry me?", by running to him yelling "Yes! Yes! YES!"

In the initial scenes, her American accent is a tad laboured (she gathers more European refinement as she proceeds), but at every point her handling of the dialogue is, by the standards of the modern musical, unusually fresh. And her singing really does transcend its context. This is singing that develops naturally out of speech, with no change of gear; and it is so full of touching colour and refinement that it speaks more truly, more intensely, than her speaking.

It is also singing of rare accomplishment, secure from the bandsome lower register to the glowing top, capable of swelling a long-held note or of making several different musical points within a single phrase. In particular, she can float the softest high notes above the stage, not as a special effect but as a completely expressive part of her music and characterisation.

May and Sprague write in a variety of pulp, derivative genres. In the title song, the last three words of the phrase "If Always were a place, I'd take you there" seem to have hopped straight out of "There's a Place for Us" in *West Side Story*. The show, directed by Frank Hauser and Thommie Walsh, features a gauche divertissement at Café La Parisienne. The horse chore is gruesome, the waiter dances feyly, and the Bubble Girl, who does a few slight tricks on points, has spaghetti legs and feet to match. The scene with the Welsh miners is naff (despite the excellence with which they sing their chorale version of "Long May You Reign"). What else? Edward VIII here is a stuffed shirt, with a sweet centre; Clive Carter almost makes that interesting. Hartley's dresses, designed by Tom Rand, are almost all very well cut and coloured. Hildegard Bechtler's sets work well, Peter Mumford's lighting excellently.

In short, *Always* is a lightweight, soft-core, melodramatic musical for tourists, amid which Hartley sings so well that you wish someone would star her in a show that did justice to her rare talent.

Victoria Palace, SWL

INTERNATIONAL ARTS GUIDE

ATHENS

EXHIBITION
Ergostasio/School of Fine Arts
Tel: 30-1-381 6930
● Joseph Beuys: exhibition featuring a number of the German artist's drawings and engravings; to Jul 6

BERLIN

CONCERT
Konzerthaus Berlin
Tel: 49-30-203090
● Berliner Sinfonie-Orchester, with conductor Jac van Steen in works by Mendelssohn, Saint-Saëns and Prokofiev; Jun 12, 13, 14, 16

OPERA
Deutsche Oper Berlin
Tel: 49-30-3438401
● Der Rosenkavalier: by R. Strauss. Conducted by Jiri Kout; Jun 15

EXHIBITION
Museum Bonn
Tel: 49-171-6361555
● Ancient Faces: Mummy Portraits from Roman Egypt: exhibition displaying nearly 200 mummy portraits on wooden

Kunst- und Ausstellungshalle der Bundesrepublik Deutschland
Tel: 49-228-9171200
● Germany Photography: display of 300 works by 150 German photographers from the 19th and 20th centuries, covering different aspects of the medium, including architecture, art, fashion, design, advertising and journalism; to Aug 24

BRUSSELS

EXHIBITION
Musées royaux des Beaux-Arts de Belgique - Musée d'Art Ancien
Tel: 32-2-5083211
● Paul Delvaux: thematically organised retrospective devoted to the work of the Belgian artist featuring approximately 120 paintings and 130 works on paper from international collections. Also on display are a number of letters, photographs, souvenirs and other documents, including sketch books; to Jul 27

LONDON

ART & ANTIQUE FAIR
Olympia Tel: 44-171-6033944
● Summer Fine Art and Antique Fair: featuring 400 fine art and antique dealers from the United Kingdom, Europe, the United States and South Africa; to Jun 15

EXHIBITION
British Museum
Tel: 44-171-6361555
● Ancient Faces: Mummy Portraits from Roman Egypt: exhibition displaying nearly 200 mummy portraits on wooden

panels, linen shrouds and coffin lids made between the 1st and 3rd centuries AD; to Jul 20
Spink & Son
Tel: 44-171-9307888

● Japanese Lacquer from the Meiji Period: Golden Tales of Genji: display of 47 pieces of lacquer from a private collection, showing the full repertoire of Meiji lacquer techniques, including high relief lacquers, details inlaid with ivory and works sprinkled with gold and silver leaf. Highlights include a late 19th century writing box, a bookcase and a lobed incense burner; from Jun 16 to Jun 27
Victoria & Albert Museum
Tel: 44-171-9388500
● Susan Barron: Labyrinth of Time: display of one of the longest books in the world, measuring 152 metres and described as both a modern day illuminated manuscript and a relative of multi-media music videos. The seven volumes can be read as a book or unfolded into six configurations creating a visual puzzle of text and images; to Sep 7

MADRID

CONCERT
Fundación Juan March
Tel: 34-1-4354240
● Antonio Arias: performance by the flautist, accompanied by Gerardo Lopez Laguna. The programme includes works by Arrieta, González, Halffner and Abril; Jun 14

EXHIBITION
Museo Nacional Centro de Arte

Reina Sofia Tel: 34-1-4675062
● Eugenio D'Ors Critico de Arte: display tracing the developments of Spanish modern art throughout this century and the career of the Spanish art critic D'Ors. On display are works by artists including Torro, Gaudí, Picasso, Dalí, Miró and Saura; to Sep 15

MUNICH

EXHIBITION
Haus der Kunst
Tel: 49-89-211270
● Frantisek Kupka and Otto Gutfreund: display of more than 200 works by the abstract artists from the 1920s and 30s, both inspired by musical rhythms; to Jul 20

NEW YORK

EXHIBITION
The Metropolitan Museum of Art
Tel: 1-212-879-5500
● Carter: 1900-1939: exhibition tracing the progression in styles at Carter from the turn of the century through to the 1920s and '30s. On display are more than 200 examples of jewellery, clocks, watches, and boxes, as well as design drawings and recently discovered casts made from the finished jewels; to Aug 3

PARIS

EXHIBITION
Centre Georges Pompidou
Tel: 33-1-44 78 12 33
● Made in France 1947-1997, 50 ans de Création en France: exhibition of works from the permanent collections of the

Centre Georges Pompidou and the Musée National d'Art Moderne celebrating respectively the 20th and 50th anniversaries of the museums. Included are works by Braque, Calder, Chagall, Duchamp, Ernst, Matisse, Pissarro, Balthus, César, Dubuffet and Klein; to Sep 29

Musée d'Art Moderne de la Ville de Paris Tel: 33-1 53 67 40 00
● Jörg Sasse: display featuring 26 recent works by the young German photographer who takes snap-shots of everyday life, which are then scanned and altered by computerized technology to produce surreal images; to Jul 6

OPERA
Théâtre des Champs-Élysées
Tel: 33-1 49 62 50 50
● La Nozze di Figaro: by Mozart. Conducted by William Christie, performed by Les Arts Florissants. Soloists include William Shimell, Rosa Mannion, Lillian Watson and Gilles Cachemaille; Jun 13, 16

ROME

OPERA
Teatro dell'Opera di Roma
Tel: 39-6-481601
● Il Barbiere di Siviglia: by Rossini. Conducted by Gianluigi Gelmetti. The cast includes Anna Caterina Antonacci, Daniela Barcellona, Paul Austin Kelly and Bruno Praticò; Jun 14

SAN FRANCISCO
EXHIBITION
Museum of Modern Art
Tel: 1-415-357-4000
● Icons: Magnets of Meaning:

exhibition assembling 300 design objects, including photographs, drawings, prints and videotapes, all centered around 12 iconic objects, including blue jeans, lipstick, a surfboard, a baseball bat, a BMW car and the museum itself; to Sep 5

STRASBOURG

CONCERT
Palais de la Musique et des Congrès
Tel: 33-388 37 67 67
● Sinfonia Varsovia: with conductor Lord Yehudi Menuhin and violinist Daislin Kashimoto in works by Beethoven and Brahms; Jun 14

VIENNA

CONCERT
Konzerthaus Tel: 43-1-7121211
● London Philharmonia Orchestra: with conductor Mikhail Pletnev and violinist David Garrett in works by Brahms and Sibelius; Jun 14

ZURICH

OPERA
Opernhaus Zürich Tel: 41-1-268 8866
● La Traviata: by Verdi. Conducted by Welter-Mödt; Jun 15

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10.00
European Money Wheel

18.00
Financial Times Business
Tonight

COMMENT & ANALYSIS



Peter Martin

Bill's billion-dollar bet

The Microsoft chief's decision to invest in cable TV could transform a historically parasitic industry but its success depends on consumer demand

Has Mr Bill Gates made his first billion-dollar mistake? The decision by Microsoft's chairman to invest that much money in Comcast, which owns a clutch of US cable television systems, can be seen in two ways. Either it is a bet on the transformation of clunky old cable into the digital superhighway. Or it is a play on the consolidation of the US cable industry. Either way, it is a long-term investment with uncertain prospects of reward.

The cable industry is a strange business, historically parasitic in nature. It came into existence because of the inability of television broadcasters to provide an adequate signal to some households.

Cable owed its initial growth to gaps or limitations in legislation: the unwillingness of governments to allow unfettered access to the airwaves, for example, or the unclear legal title to signals from distant or foreign stations.

its boom period in the 1970s and 1980s stemmed from exploiting private-sector restrictions, such as the unwillingness of film studios to allow their expensive films to go directly from cinemas to over-the-air television.

It has provided a convenient subscription-based alternative form of distribution for those suppliers or consumers unhappy with mainstream advertiser-supported broadcasting. In the UK, its relative success in providing cable telephony arises in part from the lingering unpopularity of the former monopoly supplier, British Telecommunications.

In short, cable's success has stemmed not so much from any inherent technical or managerial superiority as from the failings or limitations of its rivals.

Now it owes its future prospects to the relative sluggishness of telecoms

companies in seizing the opportunities thrown up by the new era of electronic communications. This is what Mr Gates says he has in mind in investing in Comcast: the creation of broadband connections to everybody's home, to allow the creation of a whole new communications medium.

Despite the glamorous nature of the challenge, cable's comparative advantage is mundane: it owns the poles, ducts, trenches, junction-box sites, rights of way and all the other low-tech paraphernalia of delivering physical connections to some 60m US households and some 40m in Europe.

To provide those 100m households with the broadband interactive services of Mr Gates's imaginings will require many more billions of dollars. Most of the cable systems will need wholesale upgrading to meet the technical challenge. It is a formidable business challenge, made more uncertain by the lack of an assured market.

When cable systems were constructed, in the three decades from the 1960s, they were monopolies. Franchises were awarded by local or national governments. In return for an

assured monopoly, cable operators promised universal service within their areas.

Though such franchises persist, they are no longer impregnable monopolies. Changing technology and regulation makes rivals of telecoms companies in many countries. Satellite transmission is another threat: so is over-the-air multi-channel digital broadcasting.

In short, investing in upgrading cable systems is a much less certain venture than the original construction of the systems - and that was risky enough, at times. The future of cable may require, in short, the sort of head-on confrontation with rival delivery mechanisms that the industry has so far avoided.

The biggest uncertainty, however, lies inside consumers' heads. Will they want the new interactive medium that Mr Gates is headily conceiving for them? History is littered, of course, with pundits predicting that this or that entertainment medium will flop because "there's just no demand for it". Cinema, the talkies, radio, television - and, for all I know, the illustrated

magazine, the lyric opera and the illuminated manuscript - have all been predicted as failures due to insufficient demand. All have triumphed.

So precedent is certainly on the side of the visionaries. Still, within the long roster of successful new media, a trend is apparent: each successive innovation has required less audience participation rather than more. At each step, the imaginative effort required of the consumer has fallen. Radio stories require less effort than books; cinema and television less than either.

The new interactive media that have achieved genuine mass response - such as home shopping - require less participative effort than traditional shopping. The interactive vision implies a reversal of this trend: a stepping back from passivity towards a fuller involvement of the audience. That may be a vision too far.

There is undoubtedly pent-up demand among some consumers for broadband home connections. Enthusiasts are switching from passive TV watching to the more active use of the worldwide web. Accessing the web over the traditional phone system is frustrating, and there is a market, among a sizeable minority of households, for more powerful connections.

And there is a number of ways in which the interactive visionaries are working with the trend towards greater passivity. Some of the uses of broadband connections will reduce the imaginative effort required to undertake participative transactions, like selecting a holiday destination.

All this implies a modest, information-based growth of interactivity - not enough, perhaps, to justify the scale of capital investment required to upgrade older cable systems, but certainly

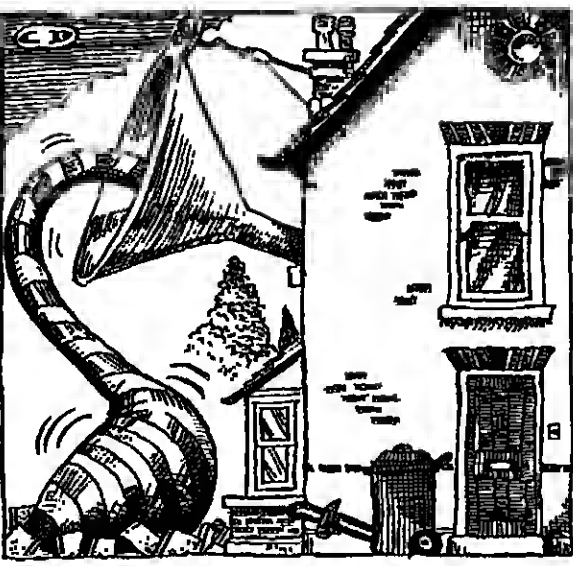
enough to encourage anyone constructing a system from scratch to build interactivity in from the outset.

To justify universal broadband connections to the home requires something that is not yet in prospect: the creation of an art form that exploits it. Parallel action, tension-building thrillers exploited the new cinematic medium of the early 1900s, quiz shows used the potential of early radio and *I Love Lucy* exploited the essentially domestic medium of 1950s TV.

The new interactive broadband art form will need to be powerful and involving enough to overturn the historical trend towards passivity. It will need to be, perhaps, some form of three-dimensional "you are there" experience.

We are still some way from that prospect. In the meantime, the provision of internet access over cable will keep early adopters and business users happy. In the US, the @Home internet-over-cable system is available to 5,000 subscribers in 10 communities; there are comparable fledgling systems in Canada and the UK.

This sort of development has contributed to a general recovery in investors' attitude towards cable, as telecom operators prove slow in bringing their own high-speed internet offerings to a wider market. The satellite threat also seems less formidable, as Mr Rupert Murdoch's US ambitions in this field are now cosily gathered into a shared venture with cable operators. Such trends will go some way towards justifying Mr Gates's billion-dollar bet. But it will take much more money, and much more imagination, to give cable a chance of breaking out of its parasitic relationship with other communications industries, to become a medium in its own right.



BOOK REVIEW · Samuel Brittan

SINGAPORE'S AUTHORITARIAN CAPITALISM

By Christopher Lingle

The Locke Institute, Fairfax Virginia, 168pp, £10

Zero tolerance, Singapore-style

The UK Institute of Economic Affairs has issued two contrasting reports by North American free market think-tanks. One is an index of "economic freedom of the world". The other is a report by Mr Christopher Lingle, a US economist, documenting his allegations of Singapore's efforts to suppress dissent. Yet on the "freedom" index Singapore ranks number two after Hong Kong - above the US itself, let alone the countries of western Europe.

The contrast can be seen in two ways. First, there is far more to freedom than the narrowly economic kind. Secondly, there are subtle links between political repression and the reality of economic freedom itself, difficult to put in any index.

For instance, the Singapore public authorities own three-quarters of the state's housing stock, which can be a useful source of power. So, too, can the annual renewal of outsiders' licences to engage in financial activities. These items do not count for much in an index, heavily influenced by subjects such as inflation and controls on commercial transactions. Although the North American urge for quantification has some advantages, it can be misleading in relation even to economics, let alone other matters.

Mr Lingle's account of his experiences, as a senior fellow of the National University of Singapore, merits study. On October 1 1994 an article appeared in the International Herald Tribune by Mr Khishore Mahbubani, permanent secretary of the Singapore foreign affairs ministry, entitled "You may not like it, Europe, but this Asian medicine could help". It began: "While the guns are almost silent in East Asia, Europe is surrounded

by conflict", stretching from Algeria to Bosnia. It went on to criticise European external policy together with the assumption that "the natural progress of history will lead to all societies becoming liberal democratic and capitalist".

The article provoked a reply from Mr Lingle. Shortly afterwards two police detectives, investigating charges of criminal defamation and contempt of court, came to interrogate him. On the advice of other expatriates, Mr Lingle took the next flight home.

He received notice to return to Singapore to respond to charges that he had made contemptuous remarks about its judicial system. But he decided not to return. Mr Lingle's article made no specific reference to Singapore.

This indeed was the theme of an apologetic "clarification" published by the IHT before the trial. Nevertheless, not only was he convicted of contempt of court, but so, too, were the publisher, Asia editor, printer and distributor of the IHT. The US State Department publicly condemned Singapore's actions.

The rulers of the country had already embarked on a campaign to sell "Asian values". The flogging of an American teenager for spraying paint on a car was flaunted as an example of the superiority of these values over the supposedly decadent individualist societies of the west. Mr Lingle had earlier hints of official intolerance when he was hauled over the coals by the dean of his faculty after an article questioning estimates of China's - not Singapore's - economic growth.

He claims his experience in Singapore was not an isolated incident. Mr Francis Siew, a former solicitor gen-

eral, was detained for 72 days under the colonial Internal Security Act after defending some prominent political prisoners and later indicating his intention to enter opposition politics. However, according to Mr Lingle, it is more usual for opposition figures to be investigated for tax offences or defamation.

The country's leaders, Mr Lingle alleges, have exploited the vulnerability to expensive defamation actions of international media which make Singapore their regional printing or distribution centre. They have also enforced direct circulation restrictions.

Mr Lingle's account of his experiences is a prelude to an analysis of authoritarian capitalism. He sees Singapore as only one example of phobocracy, or rule by fear. But the island of 3.2m people is important both for its local economic position and because of its claim to set a moral example - a claim accepted by some in the west who should know better.

Mr Lingle expounds Singapore's achievements. "A tiny country bathed in sweltering tropical torpor which has achieved in a few decades a western per capita income, with a sophisticated labour force and little unemployment or poverty." He has, moreover, some hopes that as economic advance turns to knowledge-based industries, Singapore will have to turn to "liberal democratic capitalism". If it is to foster the critical spirit on which these activities depend.

The author has made a case which should give pause to some of the more credulous admirers of "Asian values".

"Economic Freedom of the World, 1997, by J. Gwartney and R. Lawson, Fraser Institute, Vancouver, \$35

LETTERS TO THE EDITOR

Number One Southwark Bridge, London SE1 9HL

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Benefits of a super-SIB underplayed, while inherent risks have been exaggerated

From Mr Maximilian J.B. Hall

Sir, I wish to challenge some of the views recently expressed in your newspaper concerning the creation of a "super-SIB".

Professors Goodhart and Llewellyn (Personal View: "A blurred outlook", May 30), while noting the weaknesses of the old regulatory structure, caution that merely changing institutional structure does not guarantee high quality regulation. This observation is beyond contention but their conclusion, that the so-called "Twin Peaks" approach is a superior reform option, should not go unchallenged.

In essence, the authors highlight legitimate fears about the operation of a super-SIB but offer no real evidence that (a) the fears will be realised; or (b) that the Twin Peaks approach represents a superior solution to the problems raised.

Mr Michael Taylor's letter (June 4) levels several criticisms against the creation of a super-SIB. However, on the subject of "management overload", surely an appropriate management structure (matrix-style or otherwise, depending upon the internal configuration of a super-SIB) can be designed to minimise the problem. On the question of exposure to

"reputational contagion", I submit that it is a gross exaggeration to suggest that the risk faced by a super-SIB is one of the same order of magnitude as that faced by a central bank charged with the responsibility of supervising banks.

In the latter case the real economy suffers if the authority of the central bank is damaged in this way through the emergence of an interest rate premium. Given that we do not yet know what funding arrangements will operate under the new regime, I cannot see how we can criticise super-SIB on this score. Finally, on the question of the "concession

of power", I would suggest that the issue of accountability is of more importance and, under the new regime, this is quite clear - the UK Treasury is firmly in control.

In summary, each of the three academics is at fault in playing down the potential benefits and exaggerating the risks inherent in the new approach. The proposed new structure deserves to be given the chance to prove itself.

Maximilian J.B. Hall, senior lecturer in economics, Loughborough University, Loughborough, Leicestershire LE11 3TU, UK

Tax advisers

From Mr Roger M. Bale

Sir, Retroactive legislation carries with it all the integrity of the Nigerian government. If any tax were to be levied regarding UK privatisation it must surely be on the highly paid City advisers on whose advice the government sold the shares at a price that has since proved to be substantially less than what could have been achieved.

Roger M. Bale, Ecocue Berg, St Clement, Jersey JE2 6FT, CI

Educate for a sustainable future

From Professor Michael Bassey

Sir, In politics, the person and the place are at least as important as the idea. So when Mr Michael Meacher, the environment minister, writes in the FT (Business and the Environment: Viewpoint, June 4) about the ecological predicament of the global environment and reconciliation of north-south needs, there is a juxtaposition that gives a spark of hope for the future.

In going to the second Earth Summit in New York this month, Mr Meacher

could usefully consider the role of education in striving for sustainable development. He could inquire about the Baltic Sea project where young children, from several Scandinavian countries, quizzed political leaders about why the sea was dying - and embarrassed them by asking questions they could not answer. He might ask how some teachers persuaded McDonald's in Finland to eschew plastic containers (manufactured from fossil fuels) and use wood products instead.

When he returns to the UK

he might persuade education secretary, Mr David Blunkett, that education for a sustainable future, incorporating community action by young people (for their future is more at risk than ours), should feature large in the re-writing of the national curriculum.

Michael Bassey, (emeritus professor of education, Nottingham Trent University), The Cottage, Kirklington, Newark, Notts NG22 8NQ, UK

Belgian super-utility plan contrary to competition aims

From Mr Graham Weale

Sir, The proposal of the Belgian government to merge two of its banks and also to create a "super-utility" through the complete fusion of Tractebel and Electabel ("Belgium backs creation of 'super utility'", June 6) betrays a disappointing appreciation of true competition within the internal European market. The Dutch government was guilty of a similarly myopic view with its 1996 white paper proposal to merge its four power-generating companies in order that the

Netherlands should have a national company strong enough to compete at the European level.

The essence of a properly competitive internal market is that there should be companies with a good spread of assets operating broadly across Europe, rather than increasingly concentrated operators active primarily within current national boundaries.

The downstream oil industry is considered very competitive in most countries and therefore forms a useful model for the structure of

other European industries. Many of the large companies have for many years had a portfolio of operations across a number of countries. The result is that there are relatively few regions within Europe, let alone whole countries, where a single operator has more than 25 per cent market share, a level which is often considered as a critical threshold for competition by authorities such as the Monopolies and Mergers Commission.

Initiatives by national governments to strengthen companies within their own

national boundaries fly in the face of the internal market agenda. The European Commission should state its opposition to such moves and also begin to think about establishing long-term limits for the market share of a given operator in any field within defined geographical regions.

Graham Weale, director of European energy services, WFEA, economic and energy consultants, 4 Winsley Street, London W1N 7AR, UK

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Securities Portfolio	1,378	1,149
Deposits by Banks	4,586	3,667
Deposits by Non-bank Clients	4,453	5,005
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Net interest and Commission income, Trading Results	152	138
Administrative Expenses	16	18
Taxes	85	41
Net Income	65	15

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FINANCIAL TIMES

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Thursday June 12 1997

A chapter for employment

The European Union is an unemployment black spot. Unemployment in Spain is over 20 per cent of the labour force; in France and Italy it is around 12 per cent; and in Germany it is about 10 per cent. Inevitably, this harms the cause of European integration.

The answer, it is suggested, is insertion of an employment chapter into the treaty due to be finalised in Amsterdam next week. This could be helpful, but not if it diverts attention from the need for bold reforms by individual member states.

Perhaps the most encouraging aspect of the chapter is the proposal to take the goal of employment into consideration in the "formulation and implementation of Community policies and activities".

The chief concrete proposals are to draw up guidelines for the employment policy of member states; require each member to provide an annual report on its employment measures; call on the council of ministers to evaluate implementation of those measures; and, on this basis of these evaluations, have the council and European Commission make a joint report on employment in the EU.

The draft chapter also refers to EU "incentive measures" for employment. This apparently refers to pilot schemes to be financed by the EU budget. However, it explicitly excludes "harmonisation of the laws and regulations of the member states".

An optimistic view of the draft chapter is that the procedures will make it easier for member states to learn from one another's successes and failures; provide helpful EU backing for governments needing to

make unpopular changes in policy; and ensure the evaluation of EU measures for their impact on employment.

Employment policy will remain the responsibility of individual members. But the procedures in the draft chapter should help them exercise that responsibility more responsibly and limit the damage done by EU legislation.

Against this, it must be recognised that labour markets are national. The differences in employment performance among the EU's member states demonstrate the effective power that member states still possess.

In addition, no chapter can paper over fundamental disagreements on how high unemployment is to be cured. Some believe the EU needs a more expansionary macroeconomic policy. Others will resist any attempt to enshrine such a notion in EU policy making.

Equally, some believe higher employment can be secured by tighter regulation. The new French government even suggests that a shorter working week, without reductions in wages, is part of the answer. To others, this seems madness. In light of such deep differences, each country must be allowed to choose its own path.

The biggest benefit of the chapter would be the mandate to cast a searching light on the negative impact of high-minded EU social regulations. However, it will not rectify macroeconomic policy mistakes and cannot relieve member states of their own predominant responsibility for the mess many are in. If its fine words are taken as a substitute for such action, rather than a spur to it, it would be worse than useless.

Blair and China

Mr Tony Blair, Britain's prime minister, is right to attend the handover ceremonies in Hong Kong on June 30. His presence will be an appropriate mark of respect to the new sovereign and underline Britain's continuing interest in the well-being of the territory and its people.

It would have been childish to stay away, but his brief visit will also be the sharpest test yet of his skills as a statesman. The world will be watching closely.

This is an opportunity to lay the foundations of a new and constructive relationship with a China that is growing in importance both economically and politically. Yet Mr Blair cannot shirk the obligation to convey Britain's deep reservations about China's approach to democratic freedoms to Hong Kong.

The requirement is to be both firm and polite. Mr Blair must manage to leave Chinese leaders in no doubt about where Britain stands on these issues without going out of his way to sour the mood at what ought to be a moment of celebration.

It is appropriate for him to leave before China swears in its unelected provisional Legislative Council for Hong Kong. British ministers were never going to attend that particular ceremony. Having already per-

suaded the US to stay away, Britain should also actively encourage its European allies to do the same. Mr Blair should use next week's Amsterdam summit to persuade his fellow leaders of this. Otherwise European solidarity, already damaged by France's maverick line on Chinese human rights, will be meaningless.

China, too, has an interest in avoiding acrimony. It has made the handover more difficult by its wholly unnecessary decision to swear to the new legislature simultaneously with the new chief executive. Separate ceremonies would ease its own embarrassment.

Neither country should be squabbling over procedural details at this stage. It is unedifying to see Britain picking a fight over what appears to be a simple Chinese request for permission to bring in some troops so it can have some forces present from the moment it takes over. Perhaps a British retreat on that score might be met with a concession from China on the swearing-in.

That would be a sign, confirmed by Mr Blair's presence in Hong Kong, that a Labour government can engage with China while still standing up for its principles on human rights.

Ending poverty

It would be too easy to dismiss the United Nations' Human Development Report on eradicating world poverty as utopian or irrelevant. Grand initiatives of the past have tended to fizzle out, most notably the commitments made at the UN Conference on Environment and Development held at Rio in 1992. A dismissive response would, however, be mistaken. As the report illustrates, great progress has been made.

The evidence shows that with the right policies, appropriate allocation of resources, and political commitment, poverty can be reduced, as countries as diverse as China and Malaysia demonstrate. Child mortality in developing countries has been halved, and malnutrition has fallen by a third in the last 30 years.

But the plan to eliminate poverty remains a formidable task. Huge numbers remain impoverished - 515m in South Asia, and most worrying of all, in Africa, where the proportion of people in poverty is increasing.

The report is right to point out that to win the fight against poverty, investment in education is vital. Greater gender equality should be a goal. Women, and children, are much

more likely to suffer poverty than adult males. The report is also right to say that developing countries have to help themselves. Civil war and excessive military expenditure can make improvements in living standards impossible.

The cost of eliminating the most dire aspects of poverty is not great. Water, nutrition, and basic health care and education can be provided at relatively low cost. Such investment leads to lower birth rates, as well as promoting economic growth.

The industrial world ought not to have great difficulty in finding the \$4bn a year the report says would provide basic social services in developing countries. It will be less easy to ensure the level of organisation and commitment from the governments of developing countries which is needed to make the reduction of poverty a reality.

Corrupt and unstable governments can make soluble problems impossible. Where governments are prepared to co-operate, there is a moral obligation on the part of the industrial world to help. And while poverty is not going to be wiped out in the next twenty years, the authors of the report are right to set their sights high.

Nervous summer ahead

The suppositions that have buoyed European stock markets will be severely tested over the next months, argues Philip Coggan

Stock markets are driven by hopes and dreams, but there comes a time when they need to demonstrate a more solid foundation. For more than a year, European bourses have been carried higher by a wave of optimism that continental European economies will revive; that economic and monetary union will proceed on schedule; and that industry will restructure itself. Some of those hopes may be severely tested in the next few months.

One sign of the potential difficulties came on Monday, when the new French Socialist government called for more time to consider the stability pact for enforcing budgetary rigour when the single currency goes ahead. The request prompted fears that monetary union might be delayed and caused a drop in share prices in France, and in the government bonds of countries such as Italy.

A touch of profit-taking might have been expected; continental European bourses have shot ahead by 24 per cent in local currency terms since the start of the year and by a startling 68 per cent since the beginning of 1996.

The worldwide climate of low inflation and low interest rates, which has carried Wall Street and the US stock market to all-time highs this week, has played a significant part in the strength of European bourses. These are heady days for equity investors, with a tidal wave of liquidity sloshing through global stock markets.

Mr Ian Harnett, director of European strategy at NatWest Markets, argues that continental bourses do not appear overvalued relative to interest rates, even after their recent strength.

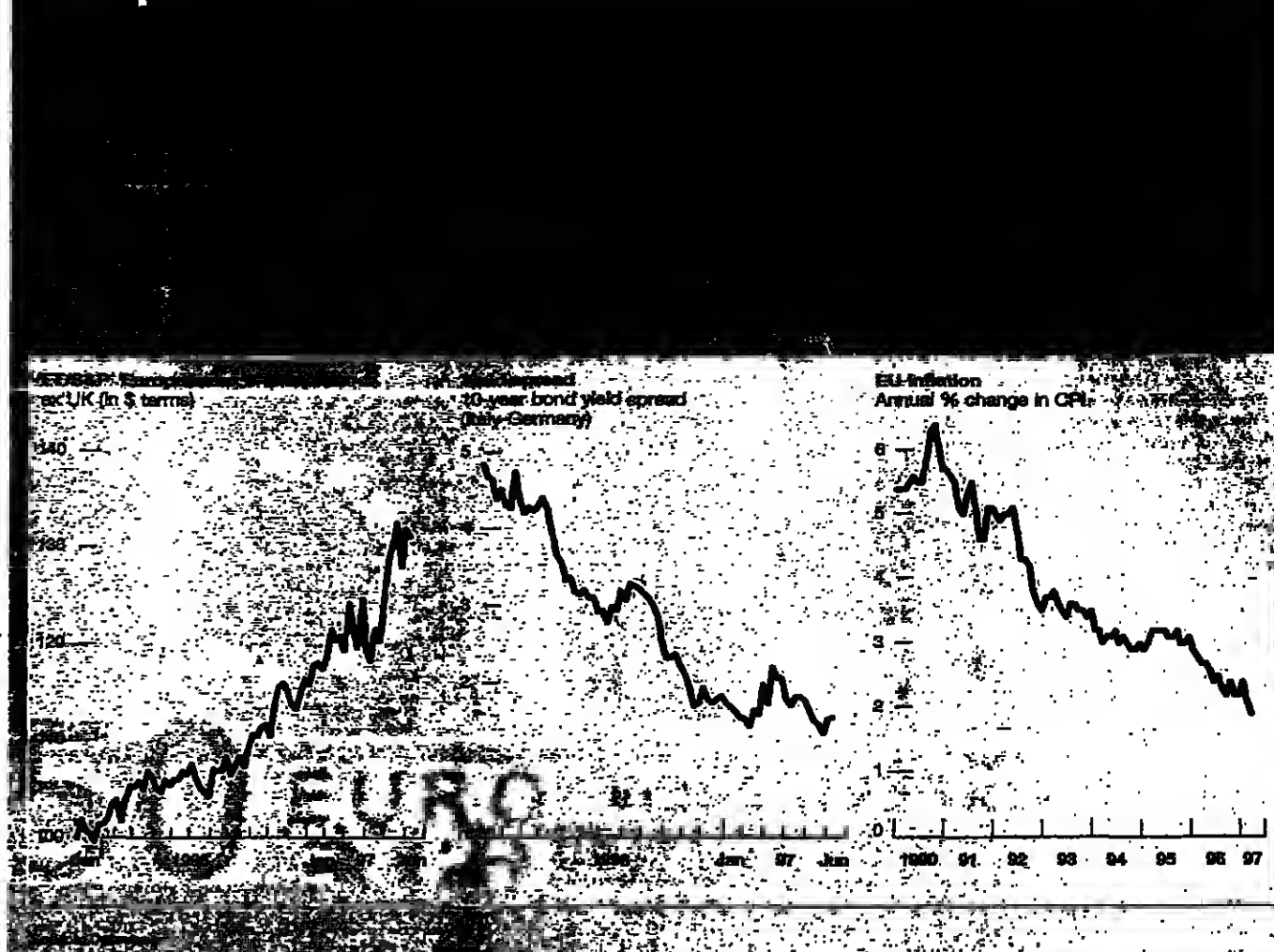
Until this week, the doubts about the ability of several European Union countries to meet the Maastricht criteria for entry into Emu, and qualify for a single currency, had done little to upset investors. The widespread assumption, especially following the row between the German government and the Bundesbank about the valuation of the latter's gold reserves, has been that monetary union will go ahead, albeit on a very broad basis.

Since even the German government is having to resort to accounting tricks to get below the deficit ceiling target - 3 per cent of gross domestic product - it will not be able to stand on its fiscal rectitude and exclude other eager candidates.

A broad monetary union, which includes Italy, Spain and Portugal, is likely to lead to a weaker euro - the new single currency - than a more narrowly focused union based on, say, Germany, France and the Benelux countries. A Merrill Lynch survey of continental European fund managers last week found that 76 per cent now expect a soft euro, a big switch from May, when 61 per cent expected a hard currency.

Weakness to European currencies has traditionally been good news for their stock markets, much as British profits and share prices did well once sterling was forced out of the exchange rate mechanism to September 1992. "There has been a strong correlation between the D-Mark/dollar rate and European stock indices in recent years," says Mr Chris Johns, European strategist at ABN-Amro Hoare Govett.

European markets: on the crest of a wave?



"You have three basic scenarios - broad union, narrow union and delay," says Mr Mark Howdle, head of European strategy at Union Bank of Switzerland in London. "Of the three, broad Emu is the best for equities, because it helps exporters' competitiveness, and lifts economic growth."

However, the Bundesbank row and the election of a French government which wants a change in the approach to monetary union have heightened the risks, according to Mr Howdle. "The chances of postponement have increased," he says. "And if the markets were 100 per cent convinced of postponement, they would be 10 per cent lower than they are now."

The real danger of postponement lies not in the direct effect on equities themselves but in the implications for bond markets. The prospect of a single currency has forced down the yields on European government bonds, particularly of countries with traditionally weak currencies such as Italy and Spain. Previously, overseas investors demanded high yields on such bonds because of the risk of foreign exchange losses; a single currency would virtually eliminate that danger.

Postponement would cause bond yields in countries such as Italy and Spain to soar, making equities look very expensive relative to fixed-income instruments.

But until Monday the bond markets were surprisingly calm about the recent political developments. "If you'd described recent events to a bond trader six months ago, he would have said it was a recipe for a bond market

meltdown," says ABN-Amro's Mr Johns. It seems that most bond investors have decided the political will behind Emu is unstoppable, whatever the problems, and that inflation remains a distant threat.

The relaxed attitude of bond markets may not be entirely good news for equities, since the lack of inflationary pressure in Europe owes much to the continent's sluggish growth record. Industrial production in the 15 European Union countries rose by only 0.4 per cent in 1996, compared with 2.7 per cent in the US and 2.6 per cent in Japan, according to the Organisation for Economic Co-operation and Development. Unemployment, at 10.9 per cent in the EU, is more than double US levels.

The austerity programmes adopted by many countries as they struggle to meet the Maastricht criteria have played their part in restricting growth. It is no wonder that the new French government wants more emphasis on growth and employment in the monetary union process. But for equities, the danger is that, if the French win the argument and growth is emphasised, bond markets will take flight. The ideal solution for stock market investors is for European economies to recover, and profits to rebound, without a Keynesian-style reflation across the continent.

The key to squaring the circle is the idea that restructuring can rescue the European corporate sector. The theory is that European companies will adopt "Anglo-Saxon" practices: enhancing profits by a range of measures such as cutting costs, spinning off subsidiaries, making

shareholding structures more transparent and so on.

At the same time, some hope Europe's governments will sweep away years of state interference and excessive social costs, and move towards a more flexible market - thereby increasing the long-term growth rate of the economy without creating inflationary pressure.

But Mr Howdle thinks the prospects for restructuring have been overestimated. "It has become clearer to the more utopian international investors that Europe is not the US. Political constraints exist to Europe that don't exist in America. Japan may have moved ahead of Europe in the global restructuring league table," he says.

The existence of a substantial majority of left-leaning governments across Europe illustrates the difficulties of pursuing structural reform. This is particularly the case in France, where union power is more entrenched and the political culture has traditionally favoured state intervention and looked askance at the Anglo-Saxon model. The new government is even less likely than the old to approve of restructuring, which it regards with some justification as a euphemism for shedding jobs.

That could be significant in industries where the French government has a large degree of direct control, such as car manufacturing and the banks. But it may not be quite as significant elsewhere. "Change is being driven by corporate management, not by governments," points out

BZW's Mr Lomax, as European industry finds it needs to cut costs in order to compete in global markets.

Perhaps pessimism about the prospects for French industry may have been taken too far. The French stock market has disappointed its supporters during the last five years, underperforming the rest of Europe by 30 per cent.

"An awful lot of restructuring has been priced into Germany, where reform is happening, but there has been a lot of hype," says ABN-Amro's Mr Johns. "Arguably virtually no restructuring is priced into France."

This can be seen by looking at the price-earnings ratio, the broad measure which compares share prices with profits that many strategists use to assess a market's valuation. The P/E ratio of the French market is 16, according to Datastream - significantly lower than the 19 rating accorded to Italy or the 20 multiple on which Germany trades.

But to justify any of those ratings, investors need some good news about the outlook for Emu, for European economies, and for corporate profits.

Some sort of deal on the stability pact may be thrashed out at the intergovernmental conference in Amsterdam, with a form of words on growth and employment satisfying the honour of the French.

But there is plenty of scope for disagreement, either some desperate fiscal fudges will be required to meet the Maastricht criteria or a decision will have to be made to waive the rules. The ramifications seem likely to give the financial markets a nervous summer.

OBSERVER

Papers bagged

There's been much talk from France's centre-right President Jacques Chirac about his role as guardian of national institutions and the need for co-operation with the new Socialist administration. But the new teams arriving in ministries across Paris haven't been finding useful papers about government business: many shelves are devoid of documents, sensitive or mundane.

At the Matignon, the prime minister's office, the sealers evacuating troops even took away lists of journalists' names and phone numbers. Maybe they thought Lionel Jospin's staff should keep their distance from the press.

Chirac, meanwhile, took a break last night from cohabitation to catch up with a political soulmate, British Labour premier Tony Blair. Yet their dinner & drink may not have been entirely devoid of strain: word has it that some elements of Blair's programme are seen in the Gaullist president's entourage as well as the right of proposals they might themselves embrace.

Blair's visit also reminds

recently repaid a cent-right UNF meeting with a list of policy proposals. As the rightists marshalled the majority of the suggestions, Madoen revealed that the programme was stark. He shouldn't have stopped there, however: a few of the British Labour party's campaigning planks might have worked wonders for the centre-right's shambling election campaign.

Masses struggle

It looked like good news for the Philippines opposition when the Supreme Court this week put paid to President Fidel Ramos's chances of running for a second term. But yesterday's announcement of a split opposition looked a little unconvincing.

For a start, the name - the Struggle of the Nationalist Filipino Masses - doesn't ring lightly off the tongue. There is no doubt that the two leading opposition parties and Josefa "Erap" Estrada, the leading populist candidate, backed Ramos. But Senator Jeffrey Debesa-Santana, another viable contender for the job, pulled out after initial merger talks.

So can the new grouping reconcile the rival presidential ambitions of Estrada and Senator Eduardo Angara, head of the main opposition Liberal

party? Alex Magno, professor of politics at the University of the Philippines, describes the struggle as "a coalition between three men each holding a dagger behind their backs".

Band of hope

Serbian president Slobodan Milosevic's tenure is being challenged by two wealthy businessmen with foreign passports - a former string player in a restaurant band and a past cycling champion. Both prospered by being close to Milosevic, but will try to end his 10-year grip on power in the presidential poll later this year.

Dogulbo Kadic, probably the richest man in Serbia, has set up his own Social Democracy party, whose manifesto declares: "Yugoslavia is a society of petty needs and petty work ethics". Kadic, who holds a Canadian passport, once headed German enterprises; now his RSC Group includes a bank, Serbia's mobile telephone network and its most popular television station.

California-based pharmaceuticals magazine Milan Pank, who defected in 1995 while on his way to a bicycle race and now holds an American passport, served briefly as Yugoslav prime minister in 1992, but lost the Serbian presidential battle just year after a barrage

of allegations by the state media that he was an American spy.

Ministry link

Danielle Kaisergruber, 49, will be much in the public eye in France over the next three weeks, conducting the independent study set up by Renault chairman Louis Schweitzer into alternatives to the closure of the struggling French carmaker's Belgian assembly plant.

Kaisergruber and Schweitzer have both worked at the French industry ministry. Schweitzer was then industry minister Laurent Fabius's chief of staff. Kaisergruber as head of the ministry's corporate qualification and training service. They were both at the ministry between 1993 and 1994, though Renault was unable to say yesterday whether they knew each other.

Sea here

Much activity at the landlocked Suoi Tien Resort near Ho Chi Minh City, which is spending \$4m on a sandy beach and wave-making equipment - and might even add salt water - for what's described as Vietnam's first artificial sea. With 3,000km of coast, it can't be hard to find the real one.

Financial Times

100 years ago

A Touch Of Humour
There always seems to be a touch of humour in the statistics of Switzerland - a country that it seems impossible to take seriously, but one which, as our Consul at Bern points out, ranks commercially in proportion to its population among the first in the world. To conserve and increase this commercial position, treaties have been entered into right and left in recent times. First there was one with Japan, and others have now either been completed or under negotiation with Tunis, Austria-Hungary, Argentina, Paraguay, Chile, Brazil, Mexico and Bulgaria.

Bourse Law In Germany
The effect of the new Bourse law to Germany is evidenced by a decline in the revenue from stamps and duties on Stock Exchange transactions which took place in April. It is expected that the contraction in business will continue at least during June. So harassing and disagreeable are the formalities that have to be gone through before obtaining official quotations for new securities and before new undertakings can be floated that the big financial houses have come to regard the launching of fresh enterprises as a most ungrateful task.



FINANCIAL TIMES

Thursday June 12 1997



UN publishes action plan to rid the world of poverty

By Frances Williams in Geneva

A six-point plan to eliminate worldwide extreme poverty by the early years of the 21st century is put forward today by the United Nations Development Programme in its annual human development report.

The report says providing universal access to basic social services and support to alleviate poverty would cost \$80bn a year.

While huge strides have been made in reducing poverty over the past 30 years in the developing world, a quarter of the world's population is still affected. In eastern Europe and the former Soviet Union, the proportion of poor people has risen sharply over the past 10 years, the UNDP says.

The report looks at "human poverty" which takes into

account low income as well as life expectancy, literacy and access to basic social services. On this measure, half the population of sub-Saharan Africa will suffer human poverty by the year 2000, the UNDP predicts.

Developing countries making most progress in the fight against poverty include Trinidad, Cuba, Chile, Singapore and Costa Rica, with Burkina Faso, Sierra Leone and Niger bottom of the rankings.

The UNDP says poverty must be tackled with "pro-poor" policies rather than waiting for the benefits of global trade and income growth to "trickle down". The report says that "unfair" trade, labour and financial policies cost poor countries \$500bn each year.

Its action plan includes mea-

sures to broaden economic and social opportunities, promote gender equality, raise economic growth rates in countries lagging behind, improve the "management of globalisation", including "fairer" trade policies, and efforts to help countries with special needs such as those rebuilding war-torn economies.

The UNDP's annual human development index, which measures life expectancy, educational attainment and incomes, puts Canada top of the 175-nation listing, followed by France, Norway and the US. The UK comes 15th.

In a separate report, the International Federation of Red Cross and Red Crescent Societies call for the adoption of universal quality standards for aid agencies.

In its annual World Dis-

asters Report, the Geneva-based federation says that independent agencies have become the main providers of relief directly to victims of disasters, putting more money into Africa than the World Bank.

Yet "in a humanitarian world without rules or a controlling body, anybody can be a relief agency", the report says.

The federation, with other leading non-governmental aid networks, is working on a set of performance standards that will lay down the rights of disaster victims, the services they are entitled to expect, how they should be delivered and requirements for monitoring and evaluating agency operations.

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The price of poverty, Page 6
Accounting for aid, Page 6

Japanese surplus doubles

Continued from Page 1

pointed out that the underlying trend was up, on the evidence of the latest trade data, which showed that exports doubled for the first 20 days of May.

ING Barings and Jardine Fleming Securities in Tokyo predicted that the surplus would rise from last fiscal year's 1.4 per cent of gross domestic product to around 2 per cent in 1997, still well below the 2.5 per cent threshold seen as unacceptable by the US government.

On the capital account, the finance ministry yesterday announced that Japanese investors bought a net ¥2,530bn of foreign securities in April, a monthly record and 11 times more than they bought in March. Nearly half of that - ¥1,400bn - was spent on US government bonds, as Japanese investors rushed to try to make an exchange rate profit from the rising dollar. The US currency has since fallen back against the yen and landed them with a loss.

Bottle on French table more likely to be water

By Andrew Jack in Paris

The French are increasingly spurning wine - even from their own renowned vineyards - and opting for water at the dinner table.

This sober rejection of their heritage is revealed in a study released yesterday by Inra, the national agricultural research institute. It shows that demand for non-alcoholic drinks has now outstripped all others, and that plain water has become the favourite Gallic tipple.

Between 1980 and 1995, the latest period for which figures are available, the proportion of adults drinking wine with their meal fell from 50 per cent to 27 per cent.

The figures for beer drinkers showed a fall from 4 per cent to 2 per cent and for cider drinkers from 2 per cent to 1 per cent. Even the popularity of tap water fell, with adult drinkers declining from 47 per cent to 35 per cent.

But there was some consolation for national pride because the real winner was bottled

water - an industry dominated by the French. Drinkers rose from 24 per cent to 45 per cent over the 15-year study period.

Mr Jean-Pierre Lapeyre, an Inra researcher in Montpellier who carried out the research, said: "The drop reflects the shift towards a more sedentary lifestyle in France, and the increase in urbanisation."

A decline in manual labour had reduced the caloric importance of wine, there was less social drinking in large groups, and health concerns had helped reduce excessive consumption.

Even the generous - or realistic - decision by French researchers to classify as adults anyone aged over 14 did little to inflate the statistics. Indeed, the young remain the greatest hope for wine-growers, with the generations born after 1960 proving the only ones to increase their consumption steadily.

The news was greeted with-out too much whining by the French viticultural industry, which has helped fund Inra's on-going study since its launch

in 1980. Mr Robert Beynart, managing director of Vinexpo, the world's largest wine exhibition, which opens for a week in Bordeaux on Monday, said: "I am relatively optimistic. I think the reduction has bottomed out in France, and we remain the most important wine exporting country in the world."

He said there was a modest increase in the number of wine producers at the exhibition from other countries but the French still dominated with 60 per cent of the floorspace.

His views were partly backed up by the Inra study, which showed that, while the number of daily or frequent drinkers has fallen sharply, the proportion who drink moderately - once or twice a week or less - has begun to rise.

Mr Lapeyre said this could be partly explained by the recent scientific research into the "French paradox", that moderate consumption of red wine appeared to reduce the incidence of cardiovascular illnesses and even Alzheimer's disease.

THE LEX COLUMN

Rupert's retreat

PrimeStar is so keen to stress that Mr Rupert Murdoch's News Corporation has been reduced to a passive role in US satellite television that it is tempting to suspect a hidden agenda.

On the surface, PrimeStar's spin looks correct. In exchange for its satellite frequencies and half-built satellites, News receives a bunch of non-voting securities. Mr Murdoch will have no votes, no board representation and no preferential arrangements for showing his channels. Symbolically, he has also had to sacrifice the ambition of having an ASkyB in America to complement his BSkyB in the Britain and JSkyB in Japan. Moreover, the financial terms barely, if at all, allow News Corp to recoup its outlay. The \$1.1bn nominal value of the convertibles merely equates to what News and its partner, MCI, have invested.

Mr Murdoch's foray into the US satellite market has not been a crowning success and News still faces a \$5bn lawsuit in connection with ASkyB's failed merger with EchoStar. But painting the escape as a failure fits just a touch too neatly with PrimeStar's interest in avoiding anti-trust scrutiny to be entirely credible. The truth probably lies in between. As a last-minute to the market, Mr Murdoch risked shelling out billions of dollars with no certainty of success. With this deal, he has cut his losses; he has also secured distribution for two of his channels. That is not quite the cornerstone of a global empire but it is, at least, a toehold.

Emu

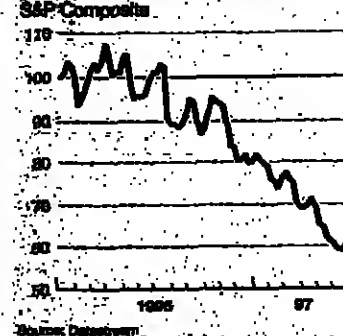
Europe's politicians are up to their merry schemes again. Back in December, it was German public opinion that needed to be placated. Enter the stability pact, a cock-eyed attempt to entrench the euro's status as a strong currency. Now it is French concerns about jobs that must be addressed. The outline of a "jobs for stability" trade-off is emerging: France will toe the line on the stability pact while Germany, in exchange, will agree to a "jobs chapter" amending the Maastricht treaty.

Both parts of the deal are flawed. Not only will penalties envisaged under the stability pact aggravate economic distress, but tight fiscal policy is anyway no guarantee of a strong currency - witness the soaring dollar in the 1990s just when the US's budget deficit was spinning

Eurotrack 200 index
2425.9 (-6.2)

News Corp

Share price (\$ relative to the S&P Composite)



out of control. Alas for Europe's 18m unemployed, a jobs pact is just as unlikely to deliver the goods.

Short of irresponsible pump-priming, which Bonn has already vetoed, governments have two ways of stimulating job creation: through macroeconomic stability, which encourages investment and growth, and microeconomic reforms. Europe's politicians have been good at the first, dismal at the second.

The trouble, of course, is that labour market deregulation could aggravate unemployment in the short term, even if the long term benefits are clear. The French government's response to Renault's attempt to close a plant in Belgium is a discouraging reminder of how far politicians are from grasping the nettle.

So while the air is sure to be thick with concern, measures to improve Europe's long-run capacity to create jobs could be lacking.

UK inflation

Mr Gordon Brown's expected plan to replace Britain's present inflation target - 2.5 per cent or less - with a simple 2.5 per cent goal might look a slight relaxation.

In practice, it is unlikely to be any such thing. Mr Brown's predecessor, working to a "2.5 per cent or less" criterion, failed almost all the time. But to an independent central bank taking the target seriously, the same downward-biased range could be an invitation to overlighten. Mr Brown's version sensibly removes the temptation for the Bank to hit its target at the economy's expense.

Thankfully, he has also not taken up the suggestion from the well-

connected Mr Gavyn Davies that the government should set a series of annual target ranges.

That would reintroduce precisely the risk of political meddling that independence is designed to avoid. Still, if Mr Brown really wants to cause a stir, there is one further measure he could usefully announce at the Mansion House tonight. Given that the new monetary policy committee is to be set such a straightforward policy goal, why not link the members' pay to their performance?

Energy Group

What is Energy Group up to? The company's public statement, which raised the prospect of a recommended offer from PacifiCorp at an underwhelming cash premium before a deal had even been done, seems a peculiar way to negotiate. So in the circumstances it is not surprising if shareholders are disturbed by whispers - emphatically denied - that Mr John Devaney, Energy Group's chief executive, is keen to push through a deal without wholehearted backing from his executive chairman.

The question is whether Energy Group shareholders would be receiving full value in the takeover. Certainly, it is possible to argue that Energy Group would be sold at a lower multiple than some other deals in the sector. But the comparators are very different businesses. Moreover, Mr Devaney can make the powerful defence that, whatever anyone thinks of the offer potentially on the table, the fact remains that shareholders are still better off with it than without it.

An offer around 70p may not be princely but it is still more than Energy Group is worth. It is not as if PacifiCorp can easily afford to pay even that. The company is already balancing \$6bn in debt on the same market capitalisation. And Energy Group itself has more than \$2bn in debt. So even if, as seems likely, the merged company were to raise \$1.5bn through asset sales, its debts would still be more than \$2bn - leveraged buy-out territory.

Before PacifiCorp's shareholders rush to celebrate any earnings-enhancement, they would be wise to consider the damage such extreme gearing-up will do to the quality of the company's earnings.

Additional Lex note on Granada, Page 21

News Corp to sell ASkyB operation to cable rival

Continued from Page 1

of cable operators, including Tele-Communications (TCI), Time Warner, US West and Cox Communications, will transform itself into a publicly quoted company.

News Corp said the move was a "step back" which took it out of the satellite operating business.

"But our focus has been on the programming side, and we are comfortable with that," it said. PrimeStar had agreed, as

part of yesterday's deal, to transmit News Corp's Fox Sports and Fox News networks to its 1.8m subscribers, it added.

News Corp was also expected to announce a \$1.7bn deal yesterday to extend its programming range with the acquisition of the International Family Entertainment cable programming company which owns The Family Channel, the ninth most-watched service in the US, and a keep-fit channel. The group also

owns the FX cable network and the successful Fox broadcast business which has risen to challenge the pre-eminence of ABC, CBS and NBC.

News Corp's retreat from satellite operations seems to leave the way clear for PrimeStar to challenge DirecTV, the leading US satellite broadcaster which is owned by Hughes Electronics, part of General Motors.

PrimeStar, which has been limited in its consumer appeal by its medium-power satellites

that demand relatively large receiver dishes, is largely confined to rural areas.

However, ASkyB's high-power satellites require smaller dishes similar to those offered by DirecTV.

Yesterday's transactions will further darken the prospects for EchoStar, the fourth-largest US direct satellite broadcaster.

It is now looking for financial backing and a new strategic partner to replace News Corp.

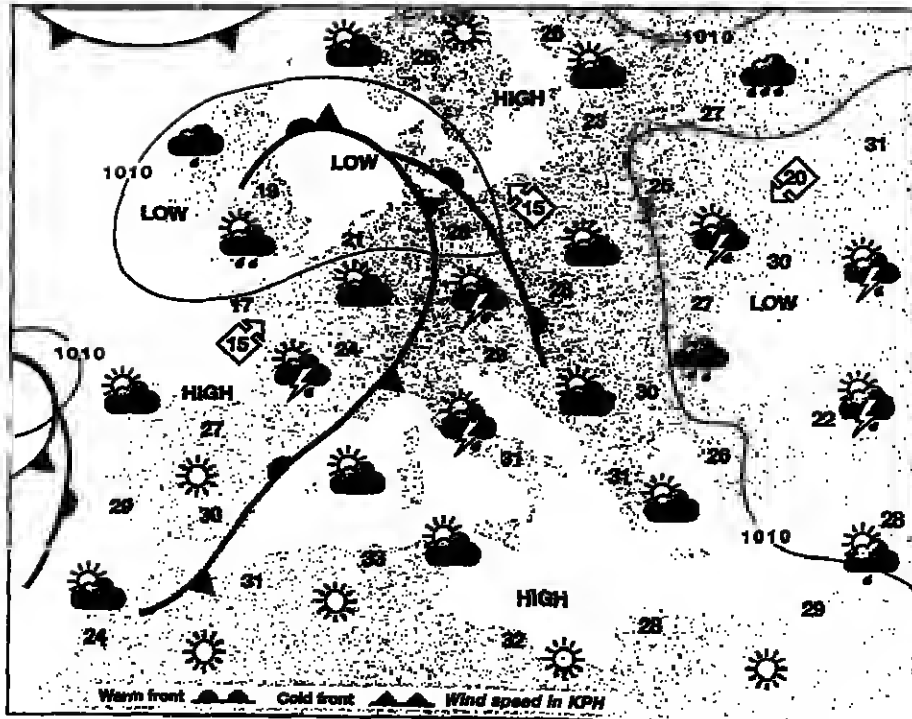
FT WEATHER GUIDE

Europe today

Heavy showers, some accompanied by thunder, will prevail throughout western Europe as low pressure and a frontal system extends from the British Isles across the North Sea towards eastern France. Ahead of this cold front, temperatures will rise to between 25C and 30C. Behind the front, it will be much cooler with temperatures from 17C to 22C. The Balkans will be sunny with some cloud. Severe weather will occur around the Black Sea. There will be thunder storms and hail showers from the Ukraine towards Turkey.

Five-day forecast

A low over the British Isles will move to Scandinavia causing showers. The western Mediterranean will remain settled. Eastern Europe and the eastern Mediterranean will have thunder storms throughout the week.



TODAY'S TEMPERATURES

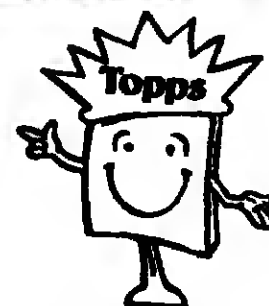
Abu Dhabi	sun 40	Beijing	fair 32	Cardiff	showers 19	Caracas	cloudy 31	Faro	fair 26	Madrid	fair 29	Rangoon	fair 28
Accra	sun 30	Belgrade	sun 29	Casablanca	sun 23	Chicago	cloudy 28	Frankfurt	showers 26	Manila	sun 30	Reykjavik	fair 10
Algiers	sun 33	Berlin	cloudy 28	Cebu	showers 25	Glasgow	showers 25	Geneva	showers 27	Manchester	sun 19	Rio	fair 24
Amsterdam	showers 22	Bogota	cloudy 20	Dakar	fair 28	Hamburg	showers 24	Hong Kong	showers 24	Mexico City	cloudy 35	S. Francisco	sun 19
Athens	fair 21	Bombay	fair 34	Dallas	cloudy 22	Helsinki	showers 26	Honolulu	fair 31	Miami	thund 32	Singapore	thund 33
Bahia	showers 22	Buenos Aires	showers 22	Dubai	fair 28	Istanbul	thund 24	Jaipur	thund 32	Montreal	showers 27	Stockholm	cloudy 25
Bangkok	fair 27	Calcutta	showers 22	Dublin	showers 19	Jakarta	thund 31	Karachi	thund 31	Moscow	thund 28	Stuttgart	fair 27
Batavia	fair 27	Cairo	fair 29	Dubrovnik	thund 18	Kuala Lumpur	thund 28	Kobe	thund 28	Nairobi	thund 25	Taipei	sun 26
Bombay	fair 37	Cape Town	fair 19	Edinburgh	thund 18	London	showers 22	Nice	thund 25	Nepesin	thund 32	Tokyo	fair 26
Buenos Aires	showers 22					Luxembourg	thund 29	Paris	showers 18	Perth	showers 27	Toronto	fair 25
						Lyon	thund 25	Prague	showers 18	Vienna	thund 27	Vancouver	fair 20
						Medan	thund 25						

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COMPANIES AND FINANCE: ASIA-PACIFIC

Astra to raise Rp700bn by listing units

By Mariana Saragosa
in Jakarta

Astra International, the Indonesian company with interests ranging from cars to plantations, plans to raise Rp700bn (\$288m) by listing three subsidiaries on the Jakarta stock market late this year and in early 1998.

The initial public offerings will reduce the company's debt and finance expansion of the three units.

The largest offering will be of 20 per cent of Astra Dian Lestari, its car components subsidiary, raising about Rp300bn and scheduled for next February.

This has generated particular interest because of the explosion in demand for

local car components following the controversial "national" car project, under which cars that reach a 60 per cent local content receive significant tax and tariff breaks.

In September, Bank Universal, another Astra unit, will raise Rp150bn with a listing of 25 per cent of its enlarged share capital. The offering will help the bank meet a new requirement for the capital adequacy ratio, which is set to be raised from 8 per cent to 9 per cent by September. SBC Warburg will act as the underwriter.

The bank's offering will be followed in October with the sale of 10 per cent, or Rp250bn, of Astra Agro Niaga, the palm oil planta-

tion unit. That offering is slightly smaller than expected, which analysts attributed to the fact that many of Astra Agro Niaga's palm oil plantations have not yet reached maturity. ABN Amro Hoare Govett has been appointed as the listing's lead underwriter.

The offerings will help reduce Astra's debt-to-equity ratio, which stood at 1.8 at the end of 1996.

Separately, Astra raised its full-year net profit projection from Rp614bn to Rp627bn. Analysts attributed the higher forecast to better-than-expected first-quarter earnings, which climbed 63 per cent to Rp119.83bn compared with the same period a year earlier.



Potential buyers examine Indonesia's national car, the Timor, after its 1996 launch. *Peppercorn*

Softbank fund to back TV production groups

By Michio Nakamoto
in Tokyo

Softbank, the Japanese distributor and publisher of personal computer software, plans to set up an investment fund in July designed to support TV production companies in Japan.

The company has a history of supporting new businesses through various venture funds. It is aiming

to pool funds totalling ¥10bn-20bn (\$177m), which will be invested in programme production companies.

Softbank is also a leading investor in JSkyB, the satellite digital multichannel service being launched by Softbank, News Corporation, Sony and Fuji TV, which will start operations in the autumn.

The establishment of the fund comes as demand for TV pro-

grammes in Japan is expected to grow substantially with the spread of digital broadcasting, which enables broadcasters to beam more channels than is possible with conventional analogue broadcasting.

The launch last winter of PerfectTV, Japan's first digital satellite multichannel service, will be followed by the start of DirecTV and JSkyB this year. Terrestrial broadcasters are also expected to start

digital multichannel services in the near future.

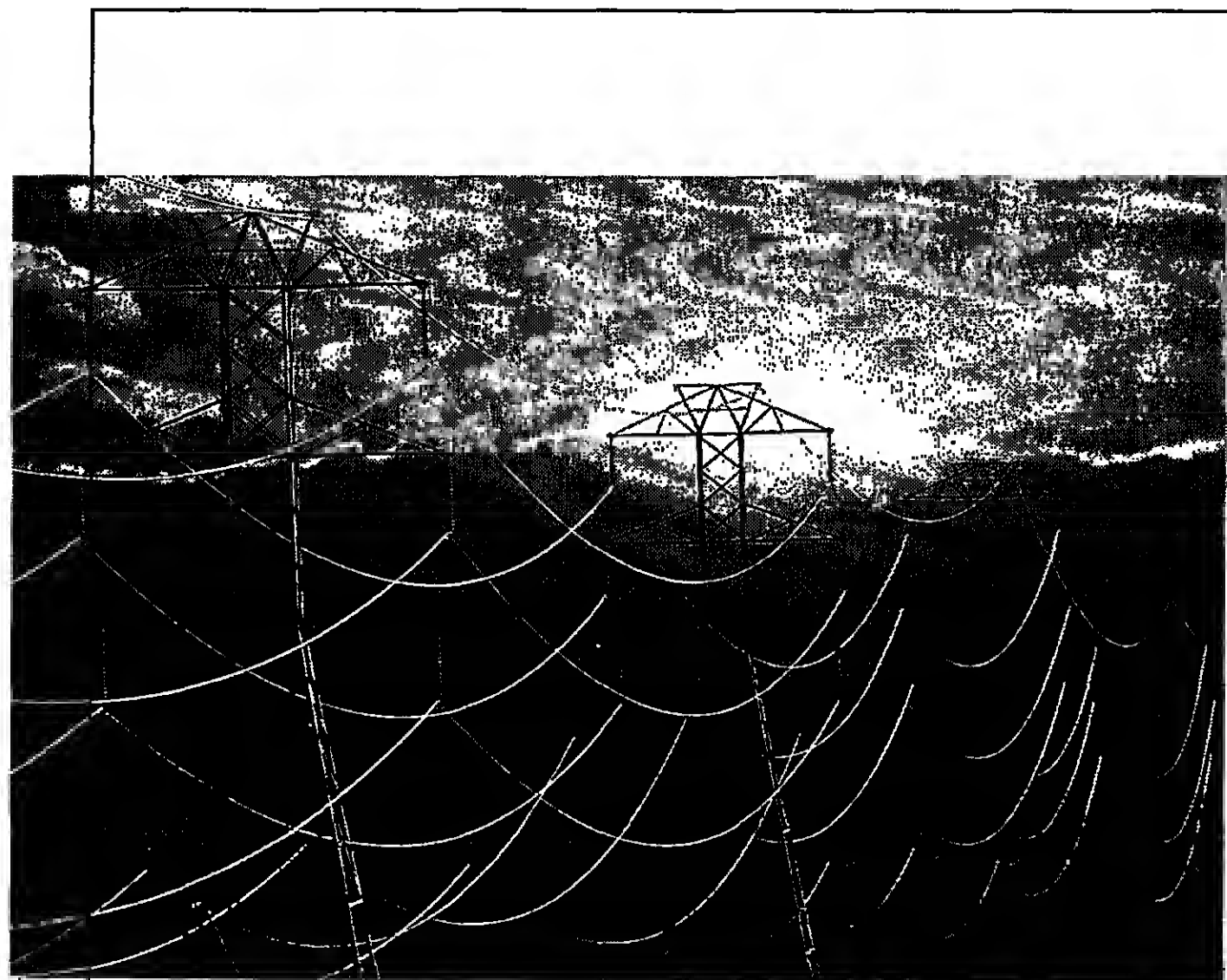
Japan's Ministry of Posts and Telecommunications recently agreed that all TV broadcasts should be digital by 2010. The number of channels available will then surge to between 200 and 250, the ministry believes.

The key to success for the new broadcasting businesses is widely thought to be access to pro-

grammes. However, there are concerns that there is a dearth of attractive Japanese programmes.

Sony is also considering the establishment of a company to produce and distribute TV programmes, although details have yet to be decided.

Daiwa Securities has been enlisted to collect investments for Softbank's new fund, starting at ¥100m a lot.



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ASX to offer fund raising on internet

By Nikki Tait in Sydney and
Nicholas Denton in London

The Australian Stock Exchange yesterday unveiled innovative plans to harness the internet to provide a forum for smaller companies to raise capital.

It said that it planned to launch an "alternative capital market" by February next year, one in which unlisted companies of any size would be able to advertise for equity funds.

The computer-based system would also allow investors in such companies to advertise if they wanted to trade holdings on an "over-the-counter", private basis. However, it would not attempt to offer a conventional minute-by-minute share trading and pricing mechanism.

Mr Barry Westlake, who has been appointed national manager of the "alternative capital markets" scheme, said yesterday he was aware of similar initiatives within the private sector in other countries, but believed that the ASX was the first national platform of this kind, he said.

The first company to raise funds through the internet was Spring Street Brewery, a New York company founded by Mr Andy Klein, which raised \$1.6m in 1995 after posting its prospectus on the public computer network.

The offering's success led Mr Klein to set up an investment banking boutique, Wit Capital, which markets public offerings and secondary trading services to internet users, and exploits the low costs of the public network.

The Securities and Exchange Commission, the US stock market regulator, has been supportive of Wit Capital and its counterparts, but no US stock

exchange has adopted the internet as a medium for securities trading.

The ASX calculates that there are about 1m small and medium-sized enterprises in Australia, which together provide about half the country's jobs. About 10 per cent of these are estimated to have growth potential, and about one-fifth of that portion are thought to be interested in looking for equity capital.

Accordingly, the ASX estimates that about 20,000 companies could be interested in the new market, although the number might rise if the scheme proves successful.

The new market would be operated through "sponsors" such as accounting firms, which would be vetted by the ASX before being allowed to advertise their services and which would then be responsible for giving a "stamp of approval" to information posted by companies themselves.

Companies seeking investors would be able to post information anonymously, giving sponsors' names as a contact point.

Some mandatory information would be required, but according to Mr Westlake: "There won't be anything like the prospectus requirements that there are on the main board."

The ASX would take a supervisory role vis-a-vis the sponsors, investigating such things as complaints. There would also be an "appropriate" fee structure for users of the new market.

At the moment Australia has only a small and relatively undeveloped venture capital market.

Given the size and importance of the small business sector within the economy, the provision of capital-raising facilities - beyond traditional bank loans - has been a subject of debate for some years.

ASIA-PACIFIC NEWS DIGEST

Taiwan approves Kingstream deal

Taiwan has approved the purchase of a stake in An Feng Steel, its second highest steel concern, by Kingstream Resources of Australia, a small Australian resources group, as part of a merger deal between the two companies. The Economics Ministry's investment commission said it had given the green light to Kingstream's proposed purchase of US\$582.33m of An Feng equity.

An Feng is taking an 80 per cent stake in Kingstream to complete the deal, which was announced in January. The two companies will merge to undertake a \$1.4bn (US\$1.07bn) joint iron and steel project in Western Australia. The merged company, An Feng-Kingstream, will be based in Perth and have combined assets of more than \$1bn. An Feng said the ministry's go-ahead was the final regulatory hurdle on the Taiwanese side to the proposed merger. They expected no obstacles from Australian authorities to the deal. *Laura Tyson, Taipei*

Coal costs depress CESC

The sharp rise in coal prices and interest costs put pressure on profits at CESC, the utility that supplies power to Calcutta and surrounding areas. Revenues were up 18 per cent to Rs14.152bn (\$385.6m) for the year to the end of March, but operating profits fell 38.35 per cent to Rs1.115bn. Net profits were down 63.8 per cent from Rs896.4m to Rs413.5m. Earnings per share fell from Rs20.64 to Rs7.80. The figures were in line with expectations. Shares in CESC fell Rs1 to Rs39.

Analysts said that the group was hurt because the new power tariff sanctioned by the government did not fully compensate for the rise in fuel costs. CESC's 500 MW coal-fired power plant, which suffered a cost increase of Rs6.7m to Rs23.08m, is almost ready for commissioning. *Kunal Bose, Calcutta*

Consolidated Coffee up 8.6%

Consolidated Coffee, India's largest producer of coffee, reported an 8.64 per cent rise in profits to Rs261m (\$7.3m) for the year to end-March. Net profits were up 32 per cent to Rs135.47m. Revenues increased 23.34 per cent to Rs666m. Earnings per share rose from Rs10.82 to Rs14.25 and the company plans to maintain the annual dividend at Rs6 a share, including an interim of Rs3.5. Analysts forecast a good rise in group sales and profits this year because of the sharp increase in coffee prices. *Kunal Bose*

Benpres lowers offer price

Benpres Holdings, the Philippine utility and infrastructure conglomerate, yesterday said it was lowering the price of its rights issue but would still be raising 9.15bn pesos (\$347m). The group, which has investments in broadcasting, banking, power, water, property, infrastructure and telecoms, said it would be issuing more shares and changing the ratio of the offering from 1-for-3 to 2-for-5.

The bulk of the proceeds will be invested in its telecoms subsidiary, Bayan Telecommunications. Under government obligations, telecoms companies must invest in rolling out new land lines. The timing of the offering has not been finalised.

Benpres will also be offering \$150m of Eurobonds with a spread of 155 basis points over the five-year Treasury note and a coupon of 7 7/8 per cent. J.P. Morgan Securities, the lead manager, announced yesterday.

Justin Marozzi, Manila

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COMPANIES AND FINANCE: THE AMERICAS

Big banks pursue Argentine purse

Investment, advertising and a law change are set to prise pesos from mattresses, says Ken Warn

Argentines can be forgiven for keeping cash under the mattress. A recent history punctuated by bank failures and hyperinflation has made savers extremely wary of putting their cash into domestic banks.

Bank account ownership remains low even among the middle classes. Although Argentina has the region's highest per capita gross domestic product, at more than \$3,700, bank deposits are only 15.5 per cent as a percentage of GDP, against 40.3 per cent in neighbouring Chile.

But all that looks to be changing. Newspapers and television carry ever more advertisements for banking services, credit cards and mortgages - another tiny but fast-growing market.

Later this year, companies will be required by law to pay salaries through the banking system, a move that will bring a whole new class of customer through the banks' doors.

The recent wave of investment by international banks shows they have high hopes for the sector.

The \$600m-plus purchase late last month by HSBC Holdings of the financial services group which includes Banco Roberts, the country's 10th largest bank, comes amid a round of buying and consolidation in the sector.

Only days before, Spain's Banco Santander bought 35.1 per cent, and control, of Banco Río de la Plata for \$700m. The bank will be merged with the group's own Banco Santander Argentina to create one of the country's biggest private sector banks.

Earlier in the month, Banco Bilbao Vizcaya, of Spain, through its associate Banco Francés del Río de la Plata, paid \$466m for 72 per cent of Banco de Crédito Argentino, again with the aim of merging the two banks.

The spending spree by foreign institutions leaves Banco Santander and BBV and their local partners

vying with Argentina's Banco de Galicia y Buenos Aires to be the dominant private sector bank.

These three "will account for approximately 20 per cent of the market", says Mr Jorge Scarinci, of Robert Fleming Argentina. "These banks are in a different category from the rest of the system: each of them has more than 160 branches, with assets of around \$9bn, high quality asset performance, and acceptable efficiency levels."

Banco de Galicia has chosen a different route from other local banks, aiming to finance development from its own resources rather than seek a big foreign partner. Last November it raised about \$150m on the equity markets to add to its war chest.

Since 1985 Galicia has poured money into its branch network, now more than 200-strong, and regional credit card business.

Galicia denies it plans large local purchases, but does not rule out smaller buys to add more branches. It believes its investments in branches and staff leave it well placed to fight off competition from the two new Spanish-dominated groups.

The round of consolidation in the sector is fundamentally different from the series of closures and mergers that followed the "tequila crisis" which hit the region after Mexico's December 1994 devaluation. In the financial turmoil that followed, \$9bn, or 18 per cent of total deposits, fled the Argentine banking system, threatening the country's convertibility law, which links the peso to the dollar.

In the ensuing rationalisation, weak institutions either linked with stronger ones or went to the wall. The number of banks fell from more than 200 to about 140.

"After the 'tequila' we saw a process of defensive concentration," says Mr Martín Redrado, chairman of Fundación Capital, a private eco-

nomist think-tank. "Now we are seeing an aggressive concentration as deposits and demand for banking services grow."

The fall in the number of institutions has been accompanied by a "flight to quality". At the start of last year, the leading 20 banks held 64 per cent of deposits; now their total stands at 75 per cent. Since the "tequila crisis" passed, bank deposits have breached \$60bn.

The consolidation looks set to continue. "Argentina's banking system profile is becoming more like that of developed markets, with a few big players and some niche operators," says Mr Enrique Ruete, chief executive of Grupo Roberts, after its sale to HSBC. "We want to be one of those players."

The central bank, limited in its capacity to act as a lender of last resort by the convertibility law, has welcomed the consolidation and increased foreign participation. It sees them as being good both for the strength of the financial system and for consumers.

For the latter, there is certainly room for improve-

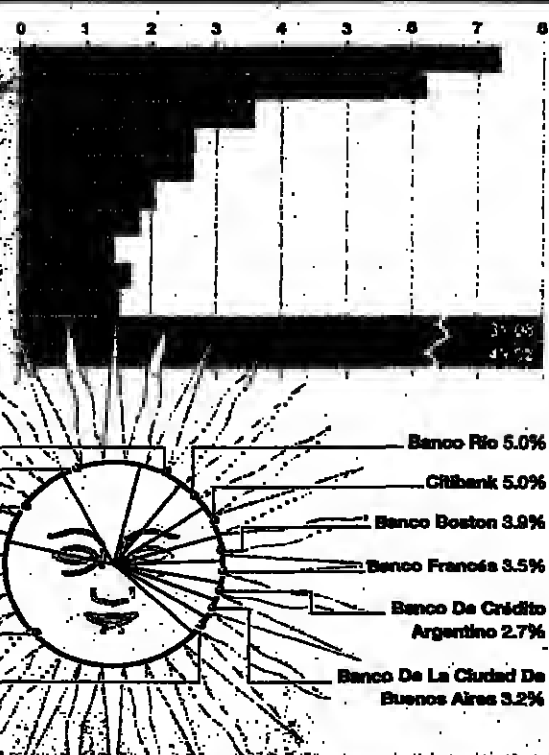
Argentine bank deposits

Deposits (\$bn) as at Dec 1996

Banco Nación
Banco de La Provincia De Buenos Aires
Banco de Galicia
Banco Río
Citibank
Banco Boston
Banco Francés
Banco de Crédito Argentino
Banco de La Ciudad De Buenos Aires
Banco Roberts
Top 10 banks
Top 50 banks
Public sector

Market share
Banco de Galicia 6.7%
Banco de La Provincia De Buenos Aires 11.7%
Banco Nación 13.6%
Other 41.6%
Banco Roberts 2.9%

Source: Central Bank, Robert Fleming Argentina



ment. Loan rates and charges are high. Simply owning a checking account can cost more than \$20 a month, with extra charges for services such as preparing a statement.

"The banking system used to be able to make money just by trading bonds," Mr Redrado says. "Now they need more capital and better technology to serve consumers. This is where the foreign institutions come in."

As competition sharpens and banks battle for customers, it seems likely that more of the country's dollars and pesos will be lured out of their hiding places.

Inco disposes of alloys unit for \$410m

By Bernard Simon
in Toronto

Inco, the western world's biggest nickel producer, has agreed to sell its alloys business to New York's Blackstone Group for \$410m.

Blackstone, a privately-held investment bank, plans to merge Inco Alloys International with 80 per cent-owned Haynes International, an Indiana-based nickel and alloys producer.

Inco, which supplies 27 per cent of world nickel consumption, expects to realise an \$85m after-tax gain from the sale, which has been expected for some time. It said the proceeds, due to be received in the fourth quarter of this year, would be used to repay debt and buy back shares.

Inco pledged to buy back one-third of its shares over five years at the time of last year's \$3bn acquisition of the Voisey's Bay nickel, copper and cobalt deposit in eastern Labrador. However, no share buy-

backs have so far taken place. Mr Manfred Mallory, analyst at Research Capital in Toronto, said yesterday: "I'll be a little disappointed if they don't throw some of this cash at the stock market."

A new question mark appeared over Inco's short-term prospects this month with the start of a strike at its flagship Ontario operations. An official said yesterday that sufficient inventories were in the pipeline to meet demand for up to two months.

Nevertheless, Inco may be forced to step up purchases of outside material on which margins are lower than metal from its own mines. IAI makes high-performance alloys for the aerospace, automotive, chemical and power generation industries, among others. It has manufacturing plants in the US, UK and France.

The business has moved from losses in the early 1990s to a \$36m operating profit in 1996 on sales of \$645m.

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Cummins seeks \$1bn sales from joint ventures

By Peter Marsh

Cummins Engine, the US group which is the world's biggest maker of large diesel engines, plans to double over the next three years its share of annual revenues from joint ventures outside North America, to about \$1bn.

The company has manufacturing projects with Komatsu, of Japan, Italy's Fiat and Wärtsilä of Finland - its main joint ventures in which Cummins has a stake of 50 per cent or less - and has a stake in five manufacturing ventures in China and one in India.

In an interview, Mr Kiran Patel, Cummins chief financial officer, said revenues controlled by Cummins in these ventures should increase to about \$1bn by 2000, with about three-quarters of the additional sales coming from customers outside the US.

Last year, these joint ventures hardly contributed to Cummins' net earnings of \$160m. However, the company views them as early-stage activities which should provide significant profits by early next century.

The plans underline the interest by many large US manufacturers in expanding their operations outside North America, particularly in south-east Asia.

Cummins' sales last year were \$5.36bn, of which 56 per cent came from the US. Mr

Patel said this was likely to decline to about 50 per cent by 2000. Accordingly, the share of revenues from Asia and Europe - currently 17 per cent and 14 per cent, respectively - was likely to rise "a couple of percentage points" in each case.

Under US accounting rules, revenues from joint ventures in which Cummins has an interest of 50 per cent or less are not consolidated into the company's sales. Profits from the ventures, however, form part of Cummins' overall earnings.

Cummins has set up the alliances partly to create a platform for international expansion and also to give it access to technologies outside its current expertise.

For instance, with Wärtsilä, part of the Metra industrial group, it is building big engines for power generation projects based on engine types already made by the Finnish company.

It is also involved in a \$300m project with two Fiat subsidiaries - the New Holland tractor company and the Iveco truck maker - which will produce a new generation of engines.

While Cummins is the world's biggest maker of diesel engines for trucks and related applications above 200hp, it also makes other engine types to compete against three big US companies: Caterpillar, Detroit Diesel and the Perkins division of LucasVarity.



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Peapod debut fails to meet expectations

By Jane Martinson in New York

Peapod, the online grocery store and delivery service, went public yesterday with a performance which suggested cooling investor ardour for internet retailing pioneers.

Like last month's initial public offering of Amazon.com, the online bookseller, Peapod came to the market above its originally estimated price. But demand appeared to dry up after an initial spurt of enthusiasm.

At lunchtime yesterday the shares were trading at their opening level of \$16, valuing the loss-making group at \$265.6m. Early interest had lifted the price to \$18.

Mr Ryan Jacob, analyst at IPO Value Monitor, said that Peapod, one of the first internet retailers to come to the market, had been expected to perform well because of interest from institutional investors.

"It's disappointing that it came under a lot of selling pressure so

early on," he said. The initial offer price - above an anticipated range of between \$13 and \$15 - combined with an increase in the number of shares offered had suggested keen demand.

Mr Jacob blamed the decline on institutional investors seeking a quick profit.

Investors keen to enjoy "one of the last free lunches" have also been blamed for the relatively weak performance of Amazon.com, the first pure internet retailer to come to the market.

Analysts also blame an increasing unwillingness among investors to make a bet on companies which are extremely difficult to value.

"Investors are not going to throw themselves at these companies like they have done over the last couple of years," said Mr Jacob.

"They are less willing to pay for a concept."

Neither Peapod, which offers its service to several urban areas, nor Amazon.com is expected to be profitable until 1999 at the earliest.

Peapod was set up in 1989 by Mr

Andrew Parkinson and his brother Thomas, now senior group executives.

The two have a combined 20.4 per cent stake in the company, which at yesterday's price would be worth about \$50m.

The rest of the company is owned by venture capital groups and WPP, the advertising group.

Illinois-based Peapod will raise \$64m gross of fees from the deal, which will mainly be used to fund working capital requirements and expansion into new markets.

Andersen struggles with real democracy

Finding a chief to please both the accounting and the consultancy arms proves difficult

In the secretive world of the big firm the election of a senior partner normally resembles a papal conclave. Discreet lobbying, a puff of white smoke. But the biggest professional services firm in the world is struggling with an outbreak of real democracy.

The 2,700 partners in Andersen Worldwide, which includes Arthur Andersen, the accountant, and Andersen Consulting, the management consultant, have this week been sent electronic ballot forms for the second round of voting in the election of a chief executive.

In the first round they failed to give the board's nominee - Mr Jim Wadia - the endorsement of Andersen's accountancy arm in the UK - the required two-thirds majority.

This time round they are being offered Mr George Shaheen, managing partner worldwide of the fast-growing Andersen Consulting.

A clear result in favour of Mr Shaheen is important for Andersen. If the partners fail to back him, a third round of voting could begin to damage the firm's global image of cool efficiency - especially in the growth market of management consulting.

Both candidates were floated at a partners' meeting in Paris in July and Mr Shaheen won marginally more support. But the board, which has an in-built majority from the accountancy

arm, decided to push forward Mr Wadia's name for what should have been a rubber stamping.

But the partners rejected Mr Wadia. Now the board is backing Mr Shaheen, and there are signs that he has made significant concessions that could land him the job when the result is announced around June 24.

"There has been an accommodation with the board," said one insider. "George has said he recognises the fears of the Arthur Andersen partners. He will soft pedal."

An outline of Shaheen's policy platform is attached to the electronic ballot paper. The differences go back to the Paris meeting. It was called to consider who should follow Mr Larry Weinbach as chief executive and managing partner when he stands down this summer. It also tried to find solutions to a series of problems that threatened to split Andersen down the middle.

Andersen Consulting became a separate firm in 1988. The rapid growth of the consultancy wing has led to "burr wars" between the two businesses. Consulting partners also think they get a poor deal out of the current structure and financing.

Options considered included a complete divorce, floating the consultancy arm, or setting up a whole new set of separate firms copying the successful example of Andersen Consulting.

Reforms were also considered to resolve the disputes between Andersen Consulting and Arthur Andersen's burgeoning consultancy.

In a show of solidarity, partners at the Paris meeting voted more than 90 per cent in favour of keeping the organisation together. Mr Wadia's election - as the first non-US chief executive - would have confirmed the impression that the Paris meeting had marked the start of peace among the partners.

Partners insist privately that Mr Shaheen's platform is just as securely based on keeping the firm together as Mr Wadia's.

"There is no difference on the policy of keeping the firm together. They both stood on that platform," said one senior partner on the consulting side. "It's a difference of pace at the most - no difference in the shape of the organisation they see or its aims or development. It's all about acceleration and timing."

The implication is that Mr Shaheen may press ahead - although not as fast as he told partners in Paris - with reforms designed to stop the turf wars. This could include an agreed demarcation of what consultancy services Arthur Andersen can offer.

Mr Shaheen seems also to have signalled that once in office he would seek to carry



A clear result for George Shaheen is important for Andersen's image of cool efficiency

all the organisation's partners with him before making any radical reforms.

But will he win? More than anything Mr Shaheen's candidacy signals the emergence of the power of Andersen Consulting. "It's the difference between the Arthur Andersen vision and the Andersen Consulting vision," said one UK partner.

To win, Mr Shaheen will need all the Andersen Consulting votes and between 700 and 800 of the Arthur Andersen votes. "It is not clear that he will win - any more than Jim did," said one US partner.

A third round of voting is a real, and potentially damaging, possibility. Meanwhile Andersen's competitors are

making hay. "The longer it takes the better," said one partner at a Big Six firm in London.

The perception that failing to endorse Mr Shaheen would further undermine the organisation's image for efficiency may just get him the votes he needs.

Jim Kelly

AMERICAS NEWS DIGEST

Lennar to focus on homebuilding

Lennar Corporation, a Miami-based builder, yesterday announced a sweeping reorganisation, involving the \$500m spin-off of its commercial real estate business, LPC, and the merger of its remaining homebuilding business with Pacific Greystone Corporation, in a deal valued at about \$450m. The merged business will be the largest US homebuilder valued by cash-flow and the fifth largest by homes sold, the company said. Pacific Greystone operates in California, Arizona and Nevada, and Lennar has a strong presence in Florida and Texas.

The deal is the latest sign of consolidation in the highly fragmented US homebuilding market. Since 1981, when housing starts were the lowest since the second world war, the industry has benefited from the improvement in the economy, with "Sun-belt" markets particularly buoyant. Consolidation has been spurred by the greater clout gained by large businesses in buying land, and by a growing willingness of family-run concerns to sell out, analysts say.

Under the tax-free merger, Pacific Greystone shareholders will receive 1.138 shares of Lennar stock per Pacific Greystone share, giving current Lennar shareholders 68 per cent of the new Lennar Corporation. LPC is being spun off as a public company involved in real estate financing and development.

Tracy Corrigan, New York

Sallie Mae seeks new chief

Sallie Mae, the US government-backed institution which finances student loans, will look for a new chief executive officer to head the company and review its management structure after its planned privatisation. The move follows a failed effort by both rebel directors and the existing management to get majority approval for competing privatisation plans.

The rebel plan involves a more aggressive expansion strategy, developing the company's role in lending to students in competition with banks. Under legislation passed last year, shareholder support is needed as part of the process of surrendering the Federal guarantee enjoyed by the institution.

Sallie Mae also said it would nominate 10 candidates for election to the 15-member board of directors of the holding company as part of a new privatisation plan. It will propose to shareholders next month. Mr David Vitale, vice-chairman of First Chicago NBD Corporation, was proposed as non-executive chairman of the holding company board.

Tracy Corrigan

CANTV doubles unionised pay

Compañía Anónima Nacional Telefonos de Venezuela (CANTV) will increase the total income of its unionised employees by 118 per cent over two years, after the decision of a labour arbitration panel. The binding decision, which follows a three-week strike last March, will mean sharply increased labour costs for CANTV, one of the country's largest listed companies, which reported record profits last year.

A pay increase of 60 per cent will be granted this month with an additional 36.25 per cent increase in June 1998, CANTV said. In addition, CANTV workers will receive a one-off bonus, as well as increases in various employee benefits. They will lose five annual vacation days. The new labour contract applies to 6,500 of CANTV's 17,300 employees and lasts until June 1999.

Raymond Collin, Caracas

ITOCHU CORPORATION

To the Holders of the Bearer Depositary Receipts

Notice is hereby given that the 73rd Ordinary General Meeting of Shareholders of Itochu Corporation will be held at 10:00 a.m. on 27th June 1997, at the Osaka Head Office of the Company located at 1-1-1 Kyutaro-Machi, 4-Chome, Chuo-Ku, Osaka, Japan. Notice of convocation of the meeting is available at the Caishu Center, Hambro Bank Ltd., 41 Tower Hill, London EC3N 4HA, U.K. and Banque Internationale à Luxembourg S.A., 49 route d'Esch, L2553 Luxembourg.

Business Operations and Results for 1996/1997
Fiscal Year (ended 31st March, 1997)

The fiscal year ended March 31, 1997, witnessed economic growth in most national economies. The Japanese economy experienced a gradual recovery and corporate revenues and earnings enjoyed continued, albeit fragile, improvement throughout the period. During the term, although investment underpinned economic expansion, a fall off in public-sector expenditures in summer 1996 led to such negative developments as a rise in the unemployment rate to a historical peak, making the operating environment challenging, and growth in personal consumption lagged. Moreover, historically low interest rates prompted recovery and growth in private-sector capital investment in some industries, and consumer investment was weak, and expansion in capital investment among small and medium-sized enterprises was lacklustre. In addition, land prices continued to slump and unimproving labour remained a serious problem for housing and financial institutions, posing structural long-term challenges to economic recovery.

In trade, exports increased slightly while imports surged as a result of higher oil prices and other factors. Consequently, Japan's trade surplus continued to narrow. Furthermore, interest rate differentials between Japan and the United States widened, leading to the depreciation of the Yen and appreciation of the Dollar, especially in the second half of the term. In the United States, personal consumption and capital investment increased steadily and economic expansion continued throughout the term. In Europe, although Germany and France underwent economic slowdown in the first half of the period as they worked to better balance their budgets in anticipation of monetary union in January 1999, both countries enjoyed slight recoveries in the second half. In contrast, China and Asian countries entered economic adjustment phases as they worked to subside inflation and bank imports. The economic growth rates of these nations slowed slightly but remained relatively high.

Against this backdrop, Itochu made steady progress towards its goal of becoming a globally integrated corporation by the 21st century. The fiscal period under review covered the last year of "Global '96", a three-year, medium-term plan under which the company further solidified its revenue and earnings base and made timely investments for future growth and prosperity.

We actively promoted business expansion in Asia and China, which are enjoying remarkable economic growth. Concretely, we invested in the production of chemical fertiliser and humifiers for high-voltage transmission, the construction of a petrochemical plant, and the expansion of a cello case operation in China. In Indonesia, we participated in steel-plate processing and natural rubber production operations. Moreover, we agreed to acquire a capital stake in the largest pulp and paper manufacturing company in south-east Asia.

In information and telecommunications technology, we introduced Japan's first digital, multichannel broadcasting service, Parbo TV, which transmits via the JCSAT-3 satellite. In the computers, we established Javelin in conjunction with Sun Microsystems Inc., and other partners and invested aggressively in Venture Capital Businesses. In addition, we actively promoted the development of stationary and mobile telecommunications businesses, especially in Asia and South America and implemented future-oriented growth policies.

In natural resource development, mining has commenced in an offshore oil and natural gas exploration and development project in Sakhalin. For an oil well development project in the Azerbaijan Republic, we worked to acquire crude-oil concession rights and maintain production of development operations. In Qatar, we decided to participate in a liquefied natural gas (LNG) project.

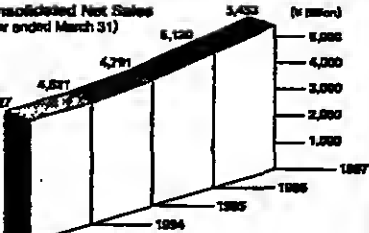
Sales for the term advanced overall, supported by such factors as a gradual economic recovery, a weakening Yen and rising crude oil prices. However, the company changed its method of accounting for previous metals trading in one based on trading gains or losses, and the resulting sharp decrease in metals trading transactions led to a 8.5 per cent (1,353.3 billion Yen) decline, compared with the previous term, in consolidated total trading revenues, down to 14,776.4 billion Yen. Gross trading profit edged up 2.3 per cent (47 billion Yen) to 216.5 billion Yen, but after adding general and administrative expenses rose 1.4 billion Yen over the previous term, trading income advanced just 1.3 billion Yen to 23.7 billion Yen. In proportion to an increase in other income as a result of a gain on sales of marketable securities and a reduction in financial expenses, ordinary profit rose 27.1 per cent (11.0 billion Yen) to 51.7 billion Yen.

The company posted 41.9 billion Yen in extraordinary losses owing to provisions for debt and to the reorganisation and disposal of subsidiaries and affiliates. On the other hand, a gain on sales of investment in securities contributed extraordinary profits of 6.3 billion Yen. The net result of extraordinary items was a loss of 33.6 billion Yen. As a result of the above factors, net income for the term grew 8.4 per cent (6.8 billion Yen) to 11.1 billion Yen.

Annual report for Fiscal 1997 will be available at Hambro Bank Ltd. and Banque Internationale à Luxembourg S.A. by the end of July 1997.

CONSOLIDATED ANNUAL REPORT

Statement of Income	For the period April 1, 1996 to March 31, 1997 (In millions of Yen)
Net sales	5,453,387
Cost of sales	3,900,022
Income before income taxes and minority interests	1,255,456
Income taxes	71,593
Net income	67,077
Net income per share	20.06 (in Yen)



Balance Sheet	March 31, 1997 (In millions of Yen)
Assets	
Cash and cash equivalents	580,420
Notes and accounts receivable, trade	1,410,085
Inventories	1,068,154
Other current assets	404,011
Property, plant and equipment	1,425,299
Other assets	921,336
Total assets	5,809,285
Liabilities and Shareholders' Equity	
Short-term borrowings and current portion of long-term debt	1,235,761
Notes and accounts payable, trade	1,029,977
Other current liabilities	1,089,219
Long-term liabilities	1,138,883
Minority interests	69,870
Shareholders' equity	1,264,775
Total liabilities and shareholders' equity	5,809,285

In Touch with Tomorrow
TOSHIBA

Notice to Bondholders

Daechang Industrial Co., Ltd.

(Incorporated in the Republic of Korea with limited liability)

U.S. \$15,000,000

0.125 per cent, Convertible Bonds 2008

(the "Bonds")

NOTICE IS HEREBY GIVEN to the holders of the Bonds (the Board of Directors of the Company by a resolution dated 10th March, 1997 made a free distribution of Common Shares to the Shareholders as a dividend.

Resolutions of the Board of Directors of the Company dated 10th March, 1997, and the Convention of the Bonds has been adopted from 21st April to 20th May 1997 effective 1st January, 1998.

12th June, 1997

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U.S. \$15,000,000

0.125 per cent, Convertible Bonds 2008

(the "Bonds")

Notice to Bondholders

IN THE HIGH COURT OF JUSTICE
NANCY DISTRICT COURT
COMPANIES COURT

IN THE MATTER OF C & A CLARK
LIMITED AND IN THE MATTER OF
THE COMPANIES ACT 1985

NOTICE IS HEREBY GIVEN that a Petition (the "Petition") was on 23 May 1997 presented to the High Court of Justice by C. A. Clark Limited (the "Company") for (1) the appointment of a Receiver of the Company's assets and (2) the enforcement of the order of the High Court of Justice dated 10th March 1997.

AND NOTICE IS FURTHER GIVEN that the Petition is to be heard before the Companies Court Judge at the Royal Courts of Justice, Strand, London WC2A 2LL on 23 June 1997. ANY creditor or shareholder of the Company desiring to oppose the making of an Order for the appointment of the Receiver should appear at the time of hearing in person or by Counsel for that purpose. A copy of the Petition will be furnished to any person appearing at the hearing on the day of the hearing on payment of the regulated charge.

DATED 12 June 1997

Frederick G. Frost Street, London EC4V 3BS

Solicitors for the Company

12th June, 1997

Frederick G. Frost Street, London EC4V 3BS

Solicitors for the Company

12th June, 1997

Frederick G. Frost Street, London EC4V 3BS

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12th June, 1997

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Solicitors for the Company

12th June, 1997

Frederick G. Frost Street, London EC4V 3BS

Solicitors for the Company

12th June, 1997

Henkel
Henkel Corporation
Gulph Mills, Pennsylvania, U.S.A.

DM 150,000,000
2% Exchangeable Bonds of 1997/2003
unconditionally and irrevocably guaranteed
by
Henkel KGaA
Düsseldorf, Federal Republic of Germany

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ATKINSONS/SELIGMAN

COMMERZ FINANCIAL PRODUCTS GMBH
COMMERZ FINANCIAL PRODUCTS S.A.

CDC MARCHES
CIBIE DES DEPOSES ET COORDONATEURS GMBH
DEUTSCHE MORGAN GRENELL
DEUTSCHE BANK, ATKINSONS/SELIGMAN
DRESNER KLEINWORT BENSON
DRESNER BANK, ATKINSONS/SELIGMAN
HSBC TRINKAUS
TRINKAUS & BURKHARDT AG & CO.

METRO LYNCH INTERNATIONAL

The Financial Times plans to publish a Survey on
France
on Wednesday, September 24
For further information, please contact:
Lindsay Sheppard
Tel: +44 171 873 3225 Fax: +44 171 873 3204
or Paul Maraviglia
Tel: +33 1 53 76 82 51 Fax: +33 1 53 76 82 53
or your usual Financial Times representative
at Surveys

U.S. \$250,000,000
Westpac Banking Corporation
Floating Rate Notes due 1997
In accordance with the provisions of the Notes, notice is hereby given that for the interest period from June 12, 1997 to September 12, 1997 the Notes will carry an interest rate of 6.125% per annum. The interest payable on the relevant interest payment date, September 12, 1997 will be U.S. \$15.75 per U.S. \$100,000 Note, U.S. \$157.48 per U.S. \$100,000 Note, U.S. \$1,574.80 per U.S. \$100,000 Note.
By: The Chase Manhattan Bank
London, Agent Bank
June 12, 1997

U.S. \$250,000,000
Westpac Banking Corporation
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Tarkett seeking to floor the opposition

German group's proposed deal with Sommer Allibert has sparked a storm in the industry

A visitor to Moscow racing through chaotic traffic into town might be surprised to see, alongside the plethora of usual colourful Russian roadside hoardings, more down-to-earth signs advertising the wares of Tarkett, a German flooring company.

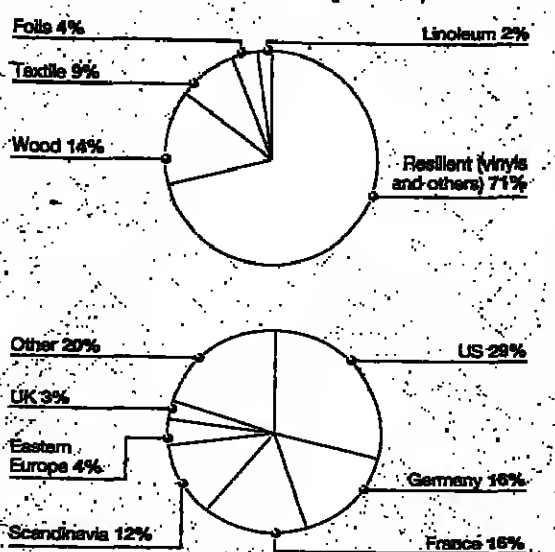
But the fact that the signs are there illustrates the growing business of this relatively little-known company from Frankenthal, south of Frankfurt, which has grown from humble origins to become the biggest manufacturer of wood and vinyl floor coverings in Europe with worldwide sales of about DM1.4bn (\$818.7m) and about one-fifth of the European market.

The signs on the Moscow streets also indicate the far-reaching extent of the floor-covering industry, with sales worldwide last year - in the vinyl flooring market alone - of more than \$6bn. The market has now grown to such a size, and the prospect for further growth is so great, that emotions have suddenly begun to run high in the normally placid floor-covering industry: a fierce takeover battle erupted this week, with Tarkett in the eye of the storm.

"This is the biggest thing to happen in the industry since Tarkett bought into Pegulan (then the biggest German flooring manufacturer, which Tarkett bought in 1987)," says Mr Arend Dikkers, analyst at Salomon Brothers in London.

What the merged company would cover

1996 Turnover: DM2.2bn (pro forma)



The battle started when Armstrong World Industries, the large Pennsylvania-based manufacturer of floor coverings, launched an unsolicited bid for Domco, the Canadian floor manufacturer controlled by Sommer Allibert, the French plastics processor. Armstrong said it would pay \$44.95m (US\$37.5m) for all outstanding shares in the company.

Armstrong's unexpected move was in retaliation to the announcement last month by Tarkett and Sommer Allibert that they were going to merge their floor-

coverings businesses - including Domco - in a DM1.36bn deal. This would form a single group, to be called Sommer Tarkett, and would be a serious challenger to Armstrong's pre-eminent position in the world market.

Such a move towards consolidation in Europe's flooring industry had been anticipated, although analysts were surprised it was the two market leaders which decided to merge rather than the handful of other, smaller companies. The flooring markets of the fast-growing

countries of eastern Europe and Asia are growing rapidly, but the more mature markets of western Europe and the US are expanding more slowly.

"The European market is split into national markets with big operators in each country but no effectively pan-European group. So the potential through economies of scale for cost savings is there," says Mr Dikkers. In contrast, the market is much more concentrated in the US where Armstrong has 60 per cent market share.

The details of the deal are

complicated. Tarkett agreed to buy Sommer Allibert's flooring business - which has about 17 per cent of the European vinyl flooring market - for DM705m. In return, Sommer Allibert agreed to buy 60 per cent of Tarkett for DM688.3m in a public offer in which it would pay DM32.75 a share for 20.1m Tarkett shares. Tarkett would take on DM250m of Sommer Allibert debt.

The proposed deal was greeted with enthusiasm by observers who said the merger was a good fit. Tarkett is the market leader in resilient flooring in Germany and Scandinavia - but is a relatively small player in the US. Sommer Allibert, on the other hand, is a market leader in France and the Benelux countries. Of the two, Tarkett is bigger in eastern Europe. As for the US, the combined Tarkett Sommer could have as much as 20 per cent of US market share in some areas.

"It makes tremendous sense to put these two companies together in Europe," says Mr Dikkers. The move to greater geographical diversification would also provide protection from the cycles of the European construction industry. Tarkett was hit hard in Germany last year after the downturn in business and consumer confidence.

Investors have reacted with equal enthusiasm - with Tarkett's shares rising sharply. The two companies

said they could recoup the estimated DM25m restructuring costs within a year, with annual gains of between DM70m and DM100m beginning to be accrued after three years.

But the move set alarm bells ringing in Pennsylvania. It represented a dent to Armstrong's ambitions to expand internationally, especially in Europe. Armstrong announced it had been in private talks with Sommer Allibert and had made an offer of \$75m for Sommer's flooring business - before the Sommer-Tarkett link-up.

It claims Sommer broke off the talks last month - just two days before the agreement with Tarkett - and thus broke an agreement with Armstrong. The US company is vowing to push on with its bid and is challenging the Sommer-Tarkett move in the courts. Yesterday, it said it had begun an action in the Ontario Court against the directors of Domco and Sommer Allibert.

Sommer Allibert has rejected Armstrong's bid for its 57 per cent stake in Domco. If Armstrong fails to win over the French company's board, it will have to rely on putting pressure on Domco's minority shareholders to force the deal through. But it may have a hard time convincing them that its apparent spilling strategy offers better longer-term value than Sommer-Tarkett's plans.

Graham Bowley

EUROPEAN NEWS DIGEST

Lower oil prices leave Neste flat

Neste, the Finnish oil, chemicals and energy group, yesterday forecast an improvement on last year's operating profits of FM1.06bn (\$209.7m), as it unveiled a small advance for the first four months of this year.

It reported January-April profits before extraordinary items of FM214m, compared with FM219m in the same period last year. "Despite uncertainty in respect of the crude price and other market prices, there is reason to believe that overall, Neste's operating profit for 1997 will improve on 1996," it said. Neste said the recent period was affected by a FM250m book loss at the group's oil division, because of lower crude oil prices. "Neste's basic petroleum inventories are not hedged against fluctuations in the oil price," it said.

The group said progress had been made in negotiations on the sale of its 50 per cent holding in petrochemicals group Borealis, which it owns with Statoil, of Norway. The four-month figures were struck on sales of FM14.6bn, against FM14.4bn last time. Operating profits were FM412m compared with FM405m, and earnings per share, FM1.90 against FM1.65.

Metra reports solid gain

Metra, the Finnish engineering group, yesterday reported a solid gain in net profits for the first four months. It said it expected full-year 1997 profits after financial items to improve over last year's FM384m (\$175m) and that group net sales would rise to FM15bn from FM11.7bn.

The forecast follows a rise in net profits for the January-April period from FM18m to FM26m. New orders were FM5.4bn, compared with FM4.1bn a year earlier, the company said. Sales climbed from FM3.16bn to FM3.99bn.

Rautaruukki posts 20% fall

Rautaruukki, the Finnish steel group, reported profits for the January-April period, before extraordinary items and tax, down 20 per cent from FM357m a year ago to FM285m (\$55.5m). It attributed the decline to lower prices during the period. However, it predicted a 10 per cent rise in both flat and long steel prices this year from end-1996 levels.

"We expect prices of both flat and long steel products to be about 10 per cent higher at the end of the year," said Mr Mikko Kivimäki, chief executive.

Reuter, Helsinki

Lufthansa in link-up with French regional airline

By Graham Bowley
in Frankfurt

Lufthansa will today announce a new alliance with a French regional airline, in a move which will broaden its strategic relations within the European airline industry.

The German carrier said yesterday the link-up would be signed in Paris today by Mr Frederick Reid, president of Lufthansa Airlines.

"The idea is to get a strong position in the French market. We needed a partner which could deliver flights

within the French market and increase our presence where we are not strong," the company said.

Lufthansa would not name the new partner. However, it said the airline focused on regional flights but also provided services beyond France. The link-up would initially be in passenger flights, but Lufthansa was also looking at strengthening relations on the freight side, it added.

Lufthansa said it had been talking to a number of regional partners in Europe. It is also looking for a new

partner in Asia, where it already has links with Thai Airways.

Last month, five airlines led by Lufthansa and United Airlines of the US launched an alliance offering flights to all the world's main cities. On a more regional level, Lufthansa has relationships with smaller local partners, such as British Midland, Finnair and Lauda Air.

Some of these alliances are marketing links, while in others Lufthansa has taken an equity stake. Lufthansa refused to say what form the latest alliance would take.

Derivatives?

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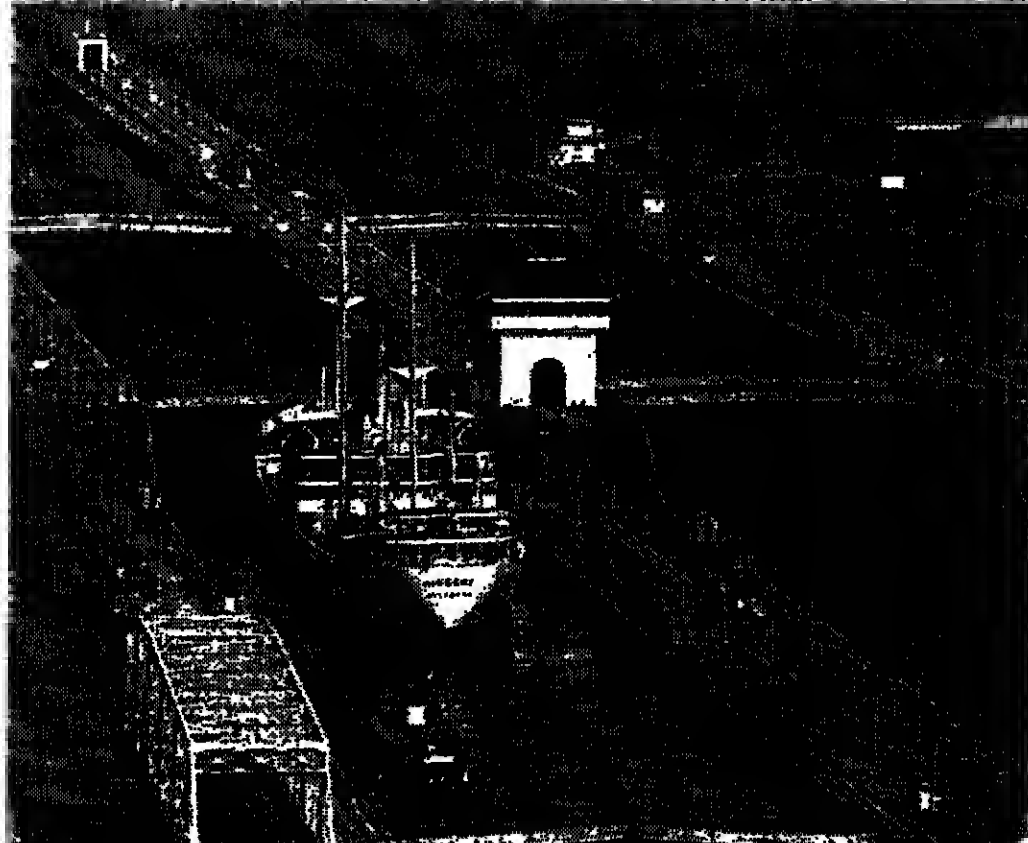
CONTRACTS & TENDERS

THE REPUBLIC OF KAZAKHSTAN SEMIPALATINSK CITY AKIM APPARAT PROJECT IMPLEMENTATION UNIT IRYTSH RIVER BRIDGE CONSTRUCTION PROJECT

INVITATION FOR TENDER (International Competitive Bidding)

- The Republic of Kazakhstan has received a loan from the Overseas Economic Cooperation Fund (OECF) of Japan towards the cost of Irytsh River Bridge Construction Project (Loan No. KAZ-P2 dated March 12, 1997).
- The executing agency, Semipalatinsk City Akim Apparatus (SCAA) invites sealed Tenders from eligible Tenderers from the said Project of 7,860 m long, including the fabrication and construction of a steel Suspension Road Bridge having 750 m main span and 35 m width (2 x 3 lanes and two pedestrian footways) over Irytsh River in Semipalatinsk City.
- Tenderers are required to have the significant experiences in designing, fabricating and constructing complete steel suspension bridge with a main span of not less than 500 m on a turnkey basis as a prime contractor or the leader company in case of a joint venture or consortium, within last 25 years and shall have adequate financial resources.
- Interested parties may obtain further information at the following address:
Project Director, Mr. Turukhan TATTYBEKOV
Project Implementation Unit (PIU)
Irytsh River Bridge Construction Project
110, Dostoevsky Street
Semipalatinsk 490050
Republic of Kazakhstan
Telephone: 07-322-2-66 54 12
Facsimile: 07-322-2-62 35 50
- A complete set of Tender Documents may be purchased by interested parties on the submission of a written application to the above and upon payment of non-refundable US Dollar 2,000 (two thousand) to the Office of Project Director, as from June 26 1997 on all working days during office hours.
- Tenders, which shall be prepared by using Two-Envelope Bidding Procedure and addressed to the Project Director, shall be delivered not later than 10 (ten) o'clock Semipalatinsk Current Standard Time on August 20 1997. Any tender received after this time will not be considered and will be returned to the Tenderer unopened.

The Panama Canal, an innovative system of locks, allows passage between the Atlantic and Pacific Oceans to facilitate trade.



Innovation allows you to merely pause where others stop.

GLOBAL BOND ISSUES

Philippine Long Distance Telephone Company

\$300,000,000

1994 Senior Notes due 2004

1995 Senior Notes due 2002

1995 Senior Notes due 2005

A Bankers Trust

In a culture that prizes innovation, the biggest challenges become the greatest opportunities. Philippine Long Distance Telephone Company's desire to bring state-of-the-art technological innovations to its service area was met by a seemingly impassable obstacle: the challenge of raising large-scale capital in market conditions that had turned skittish towards all developing nations. Together, we designed a first-of-its-kind creative solution. Based on substantive knowledge of the industry, local and global insights about the region, and the resources and credibility of our full-service worldwide network, we structured the first ever Global Bond offering by a Philippine issuer, and the first such registered with the SEC in the US. Then we worked collaboratively with PLDT to effectively market this breakthrough offering. Based on this initial achievement, we successfully marketed their two-tranche bond the following year. The ingenuity displayed by both partners throughout this relationship so impressed the financial community that we were awarded "Deal of the Year" by two publications: *Corporate Finance*, for two years running, and *Asiamoney*. We welcome the opportunity to discuss how we can develop equally innovative solutions to your financial challenges.

Bankers Trust
Architects of Value

COMPANIES AND FINANCE: EUROPE

Wallenbergs shuffle holding in ABB

By Christopher Brown-Humes
in Stockholm

Sweden's Wallenberg industrial family last night announced a significant reshuffling of its investment portfolio, involving the SKR12.4bn (\$1.5bn) sale by Incentive of nearly half of its stake in ABB, in one of the country's biggest corporate deals this year.

The balance of the shares is

being placed with Swedish and international investors.

The deal will help Incentive fund the \$1.5bn acquisition of Vivra, the US healthcare group, which is due to be completed this Friday.

It also puts it in a strong position to make further acquisitions in the medical technology sector, which it has made a priority.

At the same time, it gives investor, which owns 27 per cent of the capital of Incentive and 36 per cent of the votes, a stronger direct stake in ABB and avoids a significant dilution of the Wallenberg holding.

The deal continues the corporate streamlining of Incentive, which

has become increasingly oriented towards medical technology following the purchase of Gambro, a Swedish group, and Vivra.

The company will derive about 65 per cent of its sales and 80 per cent of its earnings from medical technology once the transactions are completed.

It has a particularly strong global position in dialysis products and renal care.

Incentive's capital gain on the sale will be about SKR9.9bn, meaning that its debt after buying Vivra will be about SKR8bn.

Further sales of non-core operations, including its remaining

shares in ABB and Electrolux, the household appliances group, are expected in due course.

Incentive is selling 55.6m shares, corresponding to 5.9 per cent of ABB's capital and 8 per cent of its votes, to investor for SKR6.4bn.

This part of the deal will not be completed until next January, partly to limit the tax payable on the whole transaction to SKR1.3bn.

The remaining 54.4m shares - representing 5.8 per cent of the capital and 7.8 per cent of the votes - have been sold to Morgan Stanley Dean Witter, the US investment bank, for SKR6bn for placing with institutions.

The price was based on ABB's closing share price in Stockholm yesterday of SKR114.50.

Incentive confirmed that it might sell some or all of its remaining ABB shares, amounting to 12.6 per cent of the capital and 16.9 per cent of the votes. However, it had agreed not to do this before March next year.

One analyst welcomed Incentive's sale of a "low-returning non-core asset" as it would substantially lower group debt. But he added it was negative that the company was having to pay any tax on the deal, and said he would reduce profit forecasts.

EUROPEAN NEWS DIGEST

Suez shareholders approve merger

Shareholders in Suez, the French holding company, yesterday approved overwhelmingly a merger with Lyonnaise des Eaux to create a utilities group with an estimated net profit in 1997 of FF3.5bn (\$603m).

Under the merger, which was proposed earlier this year, Suez investors will be paid a net exceptional dividend of FF24.6 a share, and receive 41 Lyonnaise shares for each 30 they hold in their own company.

Speaking at the Suez annual meeting yesterday, Mr Gérard Mestrallet, chairman, pledged to double net earnings per share within five years. He said Suez had during 1996 transformed itself from a largely financial group into an industrial group with a firm Franco-Belgian pillar.

Suez-Lyonnaise would concentrate primarily on four areas - energy, water, cleaning services and communication - which Mr Mestrallet said had strong potential for growth, in view of the rate of urbanisation in the developing world and environmental demands in developed countries.

Suez investors voted 99.9 per cent in favour of the plan, preparing the way for a vote by Lyonnaise des Eaux shareholders at their annual meeting next week. They also approved the nomination of Mr Albert Frère, the Belgian financier, to the board, representing his company Electrifica, which has become a significant investor.

André Jack, Paris

Strong demand for OTE

Greek retail investors yesterday flocked to order shares in OTE, the state telecommunications operator which will sell 10-12 per cent of its equity next week under Greece's partial privatisation programme.

Officials said more than Dr80bn (\$392.5m) of orders were placed yesterday for a retail tranche amounting to Dr100bn. A further Dr200bn is being made available to international and domestic institutions. The indicative share price was set at Dr6,300-Dr6,600 and retail investors will be given a Dr200 discount. On the Athens stock exchange, OTE's share price surged to Dr7,450 yesterday with more than 500,000 shares changing hands.

Officials said Greek and foreign institutions were buying heavily because they feared their share allocations would be restricted.

Kerim Hope, Athens

Uzbekistan in metals tender

Uzbekistan will hold a tender for a 40 per cent stake in its big Almaty base and precious metals plant to raise \$400m, the group's head said on Wednesday.

"We got bids from South Korea's Daewoo Corp, US company Gerald Metal, Switzerland's Glencore and a consortium of Germany's Thyssen, Handelsunion, Siemens, and Sweden's Svedala International," said Mr Vitaly Segedin. He said bids would be accepted until July 31 and firm tender offers from August 15 to October 15. The company's assets had been estimated by Uzbekistan's state property committee and foreign consultancy companies at slightly more than \$1bn, he added.

Mr Segedin said last year the operation made a net profit of 120m sums (\$1.95m), compared with losses of 2.5bn sums in 1995. It produced 100,000 tonnes of copper last year - largely cathode and wire - 6 per cent more than in 1995. He declined to give production figures for other metals.

Reuter, Almaty, Uzbekistan

Rodamco earnings rise 27%

Rodamco, the Robeco Group's property investment operation, yesterday posted a 27 per cent rise in first-quarter net profit per share, to F1.05bn from F1.071m.

The Dutch company attributed the advance to heightened activity during the quarter, including the acquisition of a shopping centre in Leicester in the UK, and 14 other commercial rental properties in and around London.

It also paid F1.290m (\$152.6m) for an interest in an office building under construction in Singapore. Managing director Mr Johan Kremer was upbeat on prospects for the full year, saying the group was on track to develop rental income. For Robeco Group, net profits were up 5 per cent in the quarter, to F1.129m.

Mark Mulligan, London

Preussag in talks to acquire Hapag

By Andrew Fisher
in Frankfurt

Preussag, the German steel and engineering group, is in talks with corporate shareholders of Hapag-Lloyd about buying a majority stake in the container shipping, transport and tourism company.

Preussag, which has been reshaping its activities, said it wanted to add Hapag-Lloyd's businesses to its own industrial transport and freight operations.

Since Hapag was rescued from financial difficulty in the early 1980s, its shares have been held by banks and companies. Only about 1 per cent is held by private investors.

Preussag said the quoted share price of nearly DM1,000 was no guide to Hapag's value; price would be discussed after due diligence investigations. Hapag last year raised net profits 23 per cent to DM30m (\$46.6m) on turnover up 3 per cent at DM4.5bn.

Preussag shares rose 2.7 per cent to DM514.50 yesterday in reaction to the proposed deal. The company has liquid assets of about DM2.5bn and said it would have no problem in buying Hapag. For the year to September 30 1996, Preussag reported net income of DM274m, a 21 per cent fall which was attributed to problems in its steel and industrial plant activities.

Hapag shareholders include Veba, the diversified energy group; Lufthansa; Deutsche Bank; Dresdner Bank; the Metro retail group; and Gevaert, the Belgian holding company. Indirect stakes are held by insurers Allianz and Munich Reinsurance.

Daimler's US trucks buy cleared

By Graham Bowley
in Frankfurt

Daimler-Benz, the German industrial group, has been given the go-ahead by US and Canadian regulatory authorities to buy Ford's US heavy trucks business.

The deal is estimated to be worth \$250m-\$300m and will cement Daimler's leading position in the US market.

Daimler said the move would be the first big expansion of its traditional business activities in the US for several years.

Mr Kurt Lauk, Daimler board member responsible for commercial vehicles, said the deal would boost revenues by about \$1bn within three years at Daimler's Freightliner US west coast truck-making division. Last year the division had turnover of \$4.8bn.

"The acquisition is a major strategic move to establish a stronger position in a rapidly changing US trucks market," Mr Lauk said. He said Daimler would now attempt to push more strongly into international markets, especially in NAFTA countries.

But he added it was also looking closely at east Asian



Jürgen Schrempf: 'The move means the group can pursue internationalisation'

and Middle Eastern truck markets.

The move will add Ford's on-site truck business - which has a 10 per cent share of the US market - to Freightliner's long-haul truck activities, which has a

30 per cent market share.

Mr Philip Aythorn, analyst at BZW in London, said: "It is a powerful combination. There is definitely a portfolio fit."

Under the deal, which was agreed by the two companies

early last month, Oregon-based Freightliner will gain control of Ford's truck programmes, assembly equipment, tooling and technology, but there will be no exchange of factories or workers.

Production of Ford's new HN80 truck series, which was introduced last year, will be continued by Daimler at a Freightliner plant but under a new brand name.

The acquisition doubles the size of the Freightliner dealer network with the addition of 250 dealers.

The Daimler deal follows Ford's decision to withdraw from the heavy trucks business in order to focus on cars and light trucks.

It could herald a pick-up in rationalisation in the trucks industry, adding greater pressure to smaller rivals such as Mack and Volvo.

Mr Jürgen Schrempf, Daimler-Benz chairman, said that the deal meant the group could now pursue its programme of internationalisation in the truck business.

"Now, in addition to maximising our capacity utilisation even better, we will be able to broaden our leading position in the very profitable North American truck business," he said.

The deal comes against a background of slightly improved demand in the US trucks industry. This market grew strongly until 1995, but there was a sharp deterioration last year which hit earnings at most companies.

Autoliv rocked as executives quit

By Greg McIvor
in Stockholm

Autoliv, the Swedish-US group which is the world's largest car seat belt and airbag supplier, was thrown into disarray yesterday by the unexpected resignation of the head of its North American operations and of another top executive.

Mr Fred Musone, chief operating officer of Autoliv in the US, and Mr Robert Rapone, head of manufacturing, said they were leaving the company with immedi-

ate effect. The company gave no explanation.

The resignations hit Autoliv shares, which closed down SKR3.50 at SKR306.50 on the Stockholm stock exchange. The departures come only a few weeks after Autoliv completed its

merger with the car safety business of Morton of the US. The deal created a group with annual sales of \$3bn and more than 40 per cent of the airbag market in the US, Europe and Japan.

Mr Musone had originally been appointed to head the

merged company, with Mr Gunnar Bark, Autoliv's long-serving former chief executive, becoming chairman.

However, Autoliv's board of directors - made up of representatives from both companies - announced abruptly in April that Mr Bark would become chief executive and chairman. Mr Musone was relegated to Mr Bark's deputy, with responsibility for US operations.

The move took investors by surprise, as Mr Bark had previously indicated a desire to take a less active role in

the company which he led for 14 years until taking a non-executive position last year.

Mr Bark admitted yesterday that he had been surprised by the two departures, suggesting that Mr Musone was aggrieved at not being given the chief executive's job.

However, he had no explanation why Mr Rapone, who had been recruited by Mr Musone, was also leaving.

He said the board had decided it wanted a European to run the company,

which has 55 per cent of its net sales in Europe, compared with 35 per cent in North America.

Mr Bark insisted that the corporate upheaval would not disrupt efforts to weld together the merged group's European and US operations.

A management committee led by Mr Tom Hartman, formerly of Morton, is to run the US operations until successors to Mr Musone and Mr Rapone are appointed, Autoliv said.

These securities have not been registered under the Securities Act of 1933 and may not be offered or sold in the United States absent registration or an applicable exemption from the registration requirements. These securities having been sold, this announcement appears as a matter of record only.

New Issue

June 9, 1997



Sutton Bridge Financing Limited

£195,000,000 8.625% Guaranteed Secured Bonds due 2022

US\$150,000,000 7.97% Guaranteed Secured Bonds due 2022

This project financing is unconditionally and irrevocably guaranteed by

Sutton Bridge Power

an affiliate of



These securities were sold in transactions pursuant to exemptions from registration under the Securities Act of 1933.

BZW

Merrill Lynch International



FF 31.14

- A dividend of FF 31.14
- A company which listens to shareholders
- Sustained and satisfactory activity

The company held its shareholders' Ordinary General Meeting on 4 June 1997. It was chaired by Mr Georges Mazaud, 13,879 shareholders were present or represented, and the meeting was able to approve the accounts for the 1996 financial year and all the resolutions proposed.

Mutual trust

Result and dividend

The company recorded a net result of FF 363,696,079 and the total distribution was fixed at FF 319,289,754, giving a net dividend per share of FF 20.76. With the addition of a tax credit of FF 10.38, the total dividend per unit came to FF 31.14. The dividend will be paid in cash on 4 July 1997.

Shareholder's guide

When the 1996 annual report was published, SIMCO gave some thought to its relations with its shareholders and has now published a short review on the subject which is available from the company.

The annual report for the financial year 1996 is available on request from the: Direction de la Communication Financière 34, rue de la Fédération 75337 PARIS Cedex 15 Tel.: 33 1 40 61 66 35

Extract from the Chairman's message Mr Georges Mazaud concluded his address with the following words:

"The French property sector has just come through a veritable revolution the effects of which continue to reverberate and look set to have a lasting impact on our activities."

Our business corresponds to a fundamental human and social need which gives us absolute confidence in the future of our profession.

I would like you to share this vision and belief."

Activity 1997

Results for the first five months of 1997 are in line with forecasts.

FORTH COMING EVENTS:
HALF YEARLY RESULTS, 24 SEPTEMBER 1997

Simco
THE REAL ESTATE FOR RENT

Granada promises a 'tremendous upside'

By Scheherazade Daneshkhu, Leisure Industries Correspondent

Granada Group yesterday reported first-half profits at the top of expectations, while promising a "tremendous upside" from tight management of Forte after last year's £3.9bn hostile takeover.

Mr Gerry Robinson, chairman of the television and leisure group, also said that the computer services division would be sold "if we got the right price for it". The division - valued by analysts at £70m (£114m) - was built up after £216m of purchases in the late 1980s.

The group made a computer services goodwill write-off of £166.7m. The exceptional loss partly offset more than £200m of gains on the sale of hotels and other assets acquired through the Forte takeover.

The company is also

believed to be considering selling the French motorway service stations, valued by analysts at £80m, which it acquired through the Forte takeover.

Pre-tax profits for the 26 weeks to March 29 rose 33 per cent to £243m (£183.3m), excluding a net £22.8m exceptional gain on sales up 34 per cent to £2bn.

Profits in the media division rose 13 per cent to £39.3m, helped by a 7 per cent increase in net advertising revenue. Mr Charles Allen, chief executive, said the group would continue to pursue international expansion in programme supply and to develop the pay television market.

The hotels division made

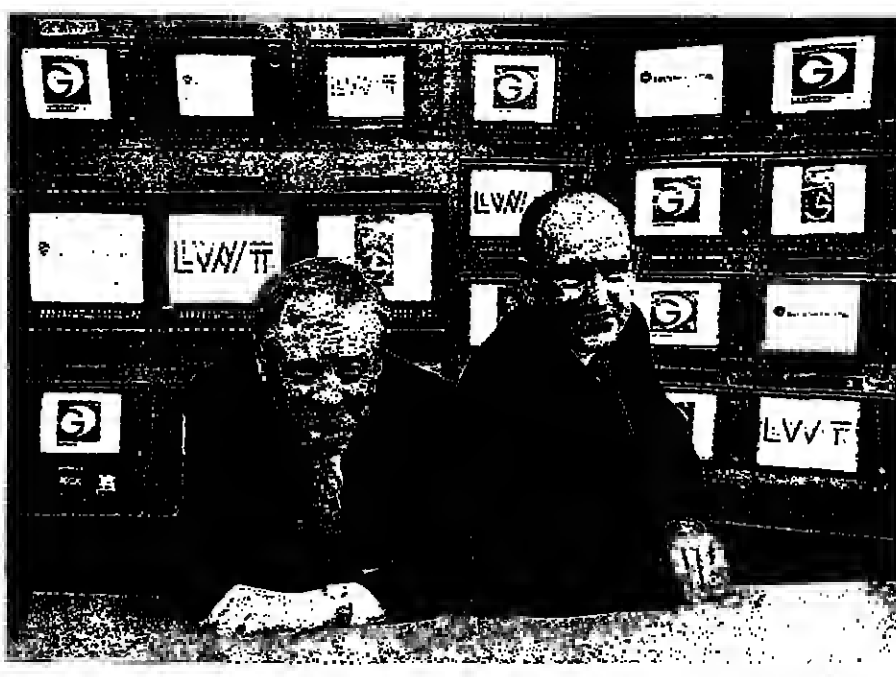
profits of £116.4m (£26.8m). Last year's figures included only two months of trading from Forte. Hotel profits rose by 58 per cent on a like-for-like basis.

Profits of the London hotels rose 22 per cent on the back of strong demand, while international hotel profits grew by 50 per cent. This vindicated the group's decision to retain the Le Meridien chain, said Mr Allen.

Profits at provincial hotels rose 21 per cent after they were regrouped into clusters overseen by regional managers. The 148 general managers have been replaced by 58 regional managers.

The rental division increased profits 4 per cent to £63.5m. A rise in insurance premium tax to 17.5 per cent would add £18m a year to costs if no action were taken. Therefore Granada has closed 100 shops.

Net debt fell £860m to



Gerry Robinson (left) with Charles Allen: seek international growth in programme supply

LEX COMMENT

Granada

Granada's falling share price suggests concerns over its deal-making abilities. But if it gets Yorkshire Tyne-Tees at £11.75p a share, the management's reputation looks assured. Profit enhancement of some £20m is achievable from axing Yorkshire's head office, rationalising programme production and sales and creating a TV bloc in the north of England. Yorkshire's profits are projected at £40m in 1998. Add in merger benefits and that is an unexciting 74 per cent post-tax return on Granada's investment after one year. But there is maybe £20m a year pre-tax from possible reductions on Yorkshire's bloated licence fees.

Disgruntled Yorkshire investors are muttering about earlier talk of a £17 bid, so it is not in the bag. But there seems little reason for further falls in Granada's shares, which have underperformed the market by 10 per cent since March. Strip out its BSkyB stake and its prospective 1997 price/earnings ratio is 5 per cent below the market average, despite superior growth prospects.

Concerns are growing about the cyclical nature of earnings from television advertising and hotels. In TV this looks unwarranted. Granada offers significant growth from programme sales. Hotel profits growth could slow in 1998, but there is a way out. Sell Meridien, Heritage and the London hotels, and almost all that would be left from Granada's Forte acquisition would be the less cyclical Post House and Little Chief chains - and a fat profit.

Expro expands in Mexico

By Christopher Adams

Expro International, the offshore services group, is investing heavily to expand out of the UK market into areas such as the Gulf of Mexico where deep water exploration has taken off in recent years.

Mr John Dawson, chief executive, said the increasing development of deep water oilfields was fuelling demand for advanced subsea equipment to complete wells thousands of feet below the surface.

Shares in the group, which floated two years ago at 175p, jumped 23½p to 490p yesterday as it unveiled a 24 per cent rise in pre-tax profits to £17.8m for the year to March 31.

Capital expenditure rose from £8.9m (£14.5m) to £14.9m and was expected to increase "significantly" this year. Operating margins slipped only slightly from 18 to 17.3 per cent as turnover rose 28 per cent from £82.2m to £105m.

Expro has opened an office in Venezuela and has developed an ultrasound technology to pulverise drill cuttings small enough to be dispersed by wave motion.

Mr Bernia Ecclestone is the ring-master who ended up owning the circus. The full story of his enterprise, Formula One Holdings, is more complex, but the metaphor captures how Mr Ecclestone's family is poised to reap the rewards of his vision and marketing skills.

Formula One Holdings, which sells television rights to the world's leading motor sport, hopes shortly to make its international stock market debut. By tomorrow, FOH's directors and its financial adviser, US investment bank Salomon Brothers, will decide whether to float in July or, more likely, to wait until September. Whatever they decide, Mr Ecclestone's role in making a commercial enterprise out of F1 racing has been remarkable.

What is the business? Formula One Holdings has a 25-year contract, to the end of 2021, with Fédération Internationale de l'Automobile, motor sport's world governing body, to manage the commercial affairs of the F1 championship.

It makes the arrangements with circuit owners for individual grands prix and negotiates the sale of broadcast rights. It also supplies to pay-per-view (PPV) broadcasters digital television feeds from Global Village, its production unit.

Of its annual revenues, estimated at £200m (£326m)

Lord of the rings

John Griffiths, Clay Harris and Patrick Harverson examine the questions surrounding the flotation of Formula One Holdings

for the current year, 47 per cent is paid to the racing teams. The company retains the other 53 per cent, from which it pays the FIA an undisclosed flat fee. FOH expects an operating profit of about £85m this year.

Who owns the company? Offshore family trusts of Mr Ecclestone's 39-year-old wife, Slavica. He transferred it to her last year in a "normal estate planning exercise".

Why is it being floated? The Ecclestone interests want to diversify their wealth by crystallising some of the value of the enterprise. They also need to solve the "succession" question, a serious issue for a company run almost single-handedly by a man who will be 67 in October.

So, what happens if he is run down by a stray F1 car? Management has been installed to support Mr Ecclestone, who stays as chief executive. His deputy is to be Mr Marco Piccinini, Ferrari's former team manager and sporting director. Mr David Wilson, a former senior executive at Ladbroke Group, is finance director. Mr Helmut Werner,

ex-head of Mercedes-Benz, is non-executive chairman. What is the company worth? Analysts' formal estimates are not yet available but unofficial figures have ranged from £1.4bn to £1.8bn. They have applied a standard media sector multiple to the discounted value of future cash flows - long-term broadcast contracts - and added estimates of PPV earnings. How much of the valuation relates to PPV? Between 20 and 30 per cent, depending on the analyst.

How important is PPV to the company's future? The company expects that F1 racing is perfectly suited to PPV exploitation of digital technology which enables the viewer to switch between multiple cameras during each race. Septics, however, doubt that PPV will succeed commercially when the basic version of a product is also broadcast "free", as F1 intends to remain, to provide the mass audience sponsors require.

How did Mr Ecclestone come to have so much control? He spotted an opportunity and filled a vacuum. He

recognised the potential huge demand for sports programming. In the late 1980s, then president of the Formula One Constructors Association, Mr Ecclestone sold his own team, Brabham, to concentrate on further commercial exploitation of F1 on behalf of the teams. F1 was then a minority interest, with races mostly broadcast on an ad hoc basis. Mr Ecclestone skilfully repackaged and repromoted F1, requiring broadcasters to "buy" a whole season of 16 or 17 races. Each grand prix is shown in more than 100 countries and watched by at least 100m viewers.

The realisation that his business now appeared to be worth more than £1bn prompted racing teams to demand a piece of the action. They are now discussing a plan to trade some revenue for an equity stake. Could dissidents set up a rival championship? Teams dance to the tune of corporate sponsors, who do not want their logos to disappear from TV screens because of a squabble over a few percentage points of revenue. It is no coincidence

that FOH's board includes Mr Walter Thoma of Philip Morris, a big sponsor. Speaking of Philip Morris, don't plans to ban tobacco sponsorship pose a threat to F1 revenues? FOH gets no revenues from sponsorship. Teams currently rely heavily on tobacco groups, but they believe if a ban became effective, plenty of other sponsors are waiting in the wings. Teams, however, might lose the 10-15 per cent premium tobacco groups are willing to pay because they have so few other advertising opportunities.

Is there a danger the European Commission will ban the central marketing of sports broadcast rights? This is unlikely, but FOH argues that even if action were taken against some sports, F1 would be less vulnerable because its commitment to "free" television addresses the Commission's main concern that viewers are being forced to pay to watch sport. What happens now? If FOH gave the go-ahead tomorrow, a prospectus would be issued and four to six weeks of international marketing would begin with a target date for trading to begin in late July. Advisers prefer no delay, because stock markets are so strong. But putting it off until September would give more time to market a business requiring a lot of careful explanation.

NEWS DIGEST

Ferry companies expect approval

The two ferry companies seeking to combine cross-channel services to compete more effectively with Eurotunnel said yesterday they were confident of approval from the European Commission, even though it has expressed "serious doubts".

Lord Sterling, chairman of the Peninsular and Oriental Steam Navigation Company, said both P&O and Stena Line expected to receive a letter of comfort from the Commission approving the deal by early July.

In a joint announcement, the two said the Commission was concerned about a possible monopoly in the carriage of tourist vehicles across the Channel. Regulators had also highlighted the need to keep the proposed joint venture separate from other operations of its parents. The merger has been approved by French authorities. Publication of a report from the UK Monopolies and Mergers Commission is expected shortly. Under plans announced last October, the companies plan to merge operation of 14 ships on the eastern Channel, creating a joint venture with gross assets of £410m. *Ross Tremain*

Porter Chadburn refocused

Operating profit from continuing operations at Porter Chadburn, the packaging and label concern, rose 24 per cent to £5.1m (£3.3m) in the year to March 28 on turnover down from £76.8m to £72.1m.

Mr Pat Barrett, chairman, said that acquisitions in the UK and US during the second half, together with small but developing ventures in Canada and Mexico, had completed the reshaping of the group into a focused international label business. The shares firmed 2p to 22p.

The pre-tax line of £4.57m compared with a deficit of £4.51m, struck after an £8.62m exceptional loss on disposal of a discontinued operation.

Copper price fall hits Navan

The rapid fall in the copper price as a result of the Sumitomo/Hamamatsu affair, coupled with a stagnation in the gold price, led Navan Resources, the Irish mining group, to report lower full year pre-tax profits of \$998,000. This compared with last year's \$5.67m, which included a \$4m exceptional foreign currency translation gain.

Chemring shares recover

Chemring shares bounced back 22½p to 100p yesterday after the manufacturer of anti-missile decoys revealed the extent of first-half losses and exceptional charges which had been foreshadowed two months ago.

Underlying losses before tax and exceptional were £1.19m, compared with a profit of £5.03m last time. Exceptional costs totalled £11.3m leaving the pre-tax deficit at £13.1m (£14.7m profit). Turnover fell 24 per cent to £31m.

The group expects a return to profit at the operating level in the second half of the current year, albeit at a lower level than last year.

RESULTS

			Pre-tax profit (£m)	EPS (p)	Current payment (p)	Date of payment	Dividends Corresponding dividend	Total for year	Total last year			
	Turnover (£m)											
Bradford Property	Yr to Apr 5	59.3	(49.1)	29.1	(25.6)	13.28	(11.86)	4.65	Aug 6	4.3	8.45	7.8
British Water Films	Yr to Mar 31	67.3	(65.4)	13.9	(12.1)	142.3	(124.5)	36.35	Oct 1	31.75	52	45.5
British Land	Yr to Mar 31	260.4 (262.8)	91.2	(82.1)	15.71	(11.2)	6.08	Oct 27	5.77	9	8.55	
Chemring	27 wks to Apr 4	31.2	(40.9)	13.1 (4.7)	53.8	(12.06)	2	July 31	3.75	6.1	11.45	
CML Microsystems	Yr to Mar 31	18.2	(17.3)	1.88	(1.51)	8.45	(6.38)	6.1	Aug 4	8.1	6.1	6.1
Dunelm	6 mths to Mar 31	32.6	(28.5)	1.96	(1.45)	7.35	(6.38)	0.7	Aug 7	0.65	0.65	2.75
Essex	Yr to Mar 31	15.1	(18.3)	0.29 (0.48)	1	(1.5)	0.3	Aug 1	0.25	0.5	0.45	
European Colour	Yr to Mar 31	23.4	(19.9)	3.91	(2.9)	5.82	(5.01)	1.575	July 23	1.425	2.4	2.2
Expro Int'l	Yr to Mar 31	105	(82.2)	17.8	(14.3)	21.2	(17.8)	5.35	July 30	4.7	8	7
Football Franchise	6 mths to Mar 28	8.99	(8.86)	0.478	(0.382)	4.04	(3.28)	0.32	July 21	4.2	7	5.9
Granada	6 mths to Mar 29	2,030	(1,511)	255.87	(183.3)	21.1	(18.8)	4.86	Sept 29	4.25	13	13
SWI	16 mths to Mar 31	85.1	(82)	14.37	(10.81)	6	(5)	1.25	Aug 4	1.31	3.65	2.25
Hastings	Yr to Mar 31	116.1	(114.9)	7.12	(6.57)	7.2	(5.7)	2.885	Oct 2	2.685	3.915	3.915
Leigh Interest	Yr to Mar 31	192.4	(146.9)	20.3	(15.4)	23.15	(20.62)	4.9	Aug 13	4.2	7	5.9
Mansfield Brewery	Yr to Mar 31	1,140	(1,225)	45.4	(41.4)	2.11	(2.5)	7.8	Sept 1	7.3	12	11.5
Meyer Int'l	Yr to Dec 31	29.3	(25.9)	0.99	(0.87)	0.87	(0.84)	-	-	-	-	-
News Resources	Yr to Mar 28	72.1	(76.8)	4.57	(4.51)	3.15	(3.41)	0.5	Aug 29	2.1	0.75	0.75
Porter Chadburn	Yr to Mar 28	192.9	(146.9)	11.9	(8.82)	10.6	(8)	2.35	Sept 25	2.1	3.5	3.1
Reckitt Benckiser	Yr to Mar 31	38.6	(28.8)	2.01	(1.25)	10.82	(6.01)	4	Oct 1	3.8	6.1	5.8
Thames Valley	Yr to Mar 31	18.5	(18.4)	5.05	(5.22)	4.7	(5.9)	1.5	July 31	1.5	4.5	4.5
Victor	6 mths to Mar 31	310.4	(288.6)	32.1	(11.94)	21.57	(7.45)	6	Aug 1	5.4	10.4	6.4
Wideworld	Yr to Mar 31	25.5	(23)	1.4	(0.504)	1.6	(0.48)	1	Aug 1	0.85	1.5	1.35

Investment Trusts

	NAV (p)	Attributable Income (£m)	EPS (p)	Current dividend (p)	Date of payment	Dividend yield (%)	Total for year	Total last year	
Israel Fund	14 mths to Mar 31	88.07 (80.11)	2.87 (2.16)	1.75 (1.14)	0.54	June 27	0.75	0.5	0.75
Scotstar Ltd	Yr to Apr 30	-	-	-	-	-	-	-	-

Earnings shown basic. Dividends shown net. Figures in brackets are for corresponding period. After exceptional charge. After exceptional credit. 70p increased capital. Net rental income. 20m reduced capital. SJS currency. Figures for 12 months to January 31 1996. 4½p less of first.

Meyer seeks US buys

By Andrew Taylor, Construction Correspondent

Meyer International, the builders' merchant and Britain's biggest timber importer, is on the look-out for acquisitions in the US and UK following a sharp rise in annual profits.

Mr Alan Peterson, who takes over as chief executive at the end of this year, said more expansive moves were expected in the US with acquisitions in the UK likely to be "bolt-ons".

He said the group was well placed financially, with net cash of £8.9m (£14.5m) on March 31, compared with net debt of £27.9m a year earlier.

Meyer's pre-tax profits before exceptional costs rose a fifth to £45.4m (£37.8m). Heavy costs, mainly reorganising the Jewson builders

merchants chain, reduced the pre-tax line the previous year to just £1.1m.

Mr Peterson said the now-completed Jewson reorganisation would generate savings of £3m this year. Divisional operating profits had slipped last year to £22.1m (£24.9m) mainly because of the reorganisation and lower sales following some branch closures.

Profits, however, were expected to rise this year on the back of the UK housing and construction recovery and from higher-margin business at the expanding Hire Point and decorating centre businesses.

Profits from timber and builders' merchants in the Netherlands rose to £3.4m (£5.7m) despite heavy investment in information systems.

PUBLIC NOTICES

OFFICE OF FAIR TRADING

Bi-pack and Wastepack UK Ltd - notification of compliance schemes

The Producer Responsibility Obligations (Packaging Waste) Regulations 1997 ("the Regulations")

Under these Regulations, certain businesses have obligations regarding the recovery and recycling of packaging. They can either act alone to meet the requirements of the Regulations, or join a registered compliance scheme which will assume this responsibility for its members.

The Director General of Fair Trading has a duty to undertake a comparison scrutiny of all compliance schemes prior to their registration.

The Director General has received submissions concerning the operation of two separate compliance schemes. They are: (i) Bi-pack, a scheme to be operated by Bi-pack Services Ltd and (ii) Wastepack UK Ltd.

Both schemes will be open to all industry sectors and will cover all material types to which the Regulations apply. The Director General invites comments from interested third parties in relation to the schemes to be operated by Bi-pack Services Ltd and Wastepack UK Ltd. They should be addressed to: David Blockidge, Office of Fair Trading, Competition Policy Division, Field House, 15-15 Bream's Buildings, London EC4A 3DF. Tel: 0171 269 8953.

Please contact Mr Blockidge if you require summaries of the proposed schemes. To be considered as part of this consultation, comments must be received by 30 June 1997.

SGA SOCIETE GENERALE ACCEPTANCE N.V.

TIME FLOORED BONDS DUE JUNE 15, 2006
ISIN CODE: XS0066643546
Notice is hereby given to the Bondholders that, pursuant to the Terms and Conditions of the Bonds Condition 4, "Interest", the rate of interest applicable to the period from June 15, 1996 to June 15, 1997 is 7.50 %. This rate of interest has been determined according to the Condition 4, (b), i.e. "The bonds bear interest at a rate which is the higher of Annual Average of TME - 0.10 % or 7.50 % per annum". (Annual Average of TME for the above mentioned period being 6.021 %. Therefore, the interest payable against surrender of coupon or 5 will be: FRF 750.00 per Bond in the denomination of FRF 10,000.

THE PRINCIPAL PAYING AGENT
SOCIETE GENERALE BANK & TRUST S.A.
LUXEMBOURG

REPUBLIC OF SLOVENIA

FLOATING RATE AMORTIZING BONDS DUE 2006
DEM 55 614 000 SERIES DEM-2
ISIN CODE: XS0066643546

For the period June 11, 1997 to December 11, 1997 the new rate has been fixed at 6.75 % p.a.
Next payment date: December 11, 1997
Coupon rate: 3

DEM 16.75 for the denomination of DEM 1,000 taking into account a pool factor of 0.9090910

THE PRINCIPAL PAYING AGENT
SOCIETE GENERALE BANK & TRUST S.A.
LUXEMBOURG

REPUBLIC OF SLOVENIA

FLOATING RATE AMORTIZING BONDS DUE 2006
USD 425 272 000 SERIES USD-1
ISIN CODE: XS0066643547

For the period June 11, 1997 to December 11, 1997 the new rate has been fixed at 6.75 % p.a.
Next payment date: December 11, 1997
Coupon rate: 3

USD 51.19 for the denomination of USD 1,000 taking into account a pool factor of 0.9090910

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A group of financial investors led by

PCI-Parcom B.V., Utrecht

and including NatWest (Nominees) Ltd. has together with management acquired 100% of

Edscha - Group, Remscheid

a leading manufacturer of car hinges and convertible car top systems.

Palladian Partners, Frankfurt

arranged the transaction.

ARTHUR ANDERSEN, Frankfurt, acted as investigating accountants and tax consultants.

RELOCATION SALE

NOW ON IN OLD BOND STREET



SALE ONLY AT
34 OLD BOND STREET, LONDON W1

REPUBLIC OF SLOVENIA
FLOATING RATE AMORTIZING BONDS DUE 2006
USD 219 895 000 SERIES USD-2
ISIN CODE: XS0066643548

For the period June 11, 1997 to December 11, 1997 the new rate has been fixed at 6.75 % p.a.
Next payment date: December 11, 1997
Coupon rate: 3

USD 11.80 for the denomination of USD 1,000 taking into account a pool factor of 0.9090910

THE PRINCIPAL PAYING AGENT
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CURRENCIES AND MONEY

Surplus figures send yen higher

MARKETS REPORT
By Richard Adams

The yen touched its highest level for the year against the US dollar yesterday, after news of a booming current account surplus triggered heavy buying of the Japanese currency.

Trading on the Tokyo and Asian markets saw the yen reach ¥110.63 against the dollar, its strongest level for seven months. The currency later made further gains against sterling and the German D-Mark.

The yen's gains came after announcement of a 90 per cent increase in the Japanese current account surplus during April, to more than ¥1,000bn for the month.

Comments by US officials concerned at the size of the surplus spurred the dollar downwards.

The dollar recovered above ¥111 in Europe in early trading, but dipped below it

again before finding support around the ¥110.6 level, and bounced back to close at ¥111.3, ¥1.4 below the previous closing rate.

The D-Mark also suffered against the yen, in much lighter trading, as traders looked for long yen positions over potential European monetary union participants. The German currency lost 1 per cent against the yen, and closed at DM4.93, a touch away from the DM4.92 level in August 1996.

What a difference a month makes. Six weeks ago, the Bank of Japan was said to be buying yen at ¥127 to strengthen it against the dollar. Yesterday, there was talk the central bank was contemplating selling yen at ¥110.5.

But a trader at a US bank in London said the Japanese saw the dollar's fall against the yen since May as excessive, and that intervention to support it was possible, to limit the dollar's downside to ¥110.

Mr Tony Norfield, head of treasury research at ABN

Y110 to prop up the dollar. In between times, the yen has strengthened by over 12 per cent on a trade-weighted basis.

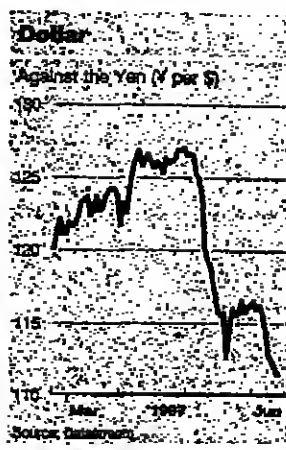
In Tokyo, it was Japanese public funds and US investment houses seen buying dollars below ¥111.

Mr Nick Shamim, currency analyst at ANZ bank in London, said that Japan's latest quarterly GDP figures, due out today, could weigh the dollar down further below ¥111, despite "chunky steps" at ¥110.5.

"There could be a massive explosion, with the [dollar] bears taking control and pushing below ¥110," Mr Shamim said.

But a trader at a US bank in London said the Japanese saw the dollar's fall against the yen since May as excessive, and that intervention to support it was possible, to limit the dollar's downside to ¥110.

Mr Tony Norfield, head of treasury research at ABN



Amro, said that a strong yen will remain the dominant market theme, and the yen can be expected to fall below ¥110 ahead of the Denver G7 summit on 20 June.

The dollar, in contrast, is also being held back by upcoming retail sales and producer price data in advance of the Federal Open Markets Committee meeting starting on 1 July.

ABN Amro are advising that investors should stay short of dollar-yen, with stop-loss orders placed at around ¥112.

Sterling remains robust, despite some weakness against the yen. Sterling lost over two yen yesterday, as it slipped from ¥184.7 at Tuesday's close in Europe, to ¥182.3 yesterday, its lowest rate since last year.

Sterling also drifted lower against the D-Mark and the dollar, after UK unemployment fell less than forecast in May. Slight falls against both currencies led the Bank of England's trade-weighted index lower, by 0.4 to 99.3.

With Mr Gordon Brown,

the UK chancellor, delivering his Mansion House speech in London today, there was some nervousness that a revision to the government's inflation measure or target could move gifts and therefore sterling. But one analyst said: "Whatever [Brown] does is good - the market loves him."

The Irish punt fell below DM2.65 against the D-Mark on Wednesday, after ECU uncertainty provoked closing off of some short positions in the punt. The Irish currency ended at DM2.65, down 0.7 of a penny.

The punt initially gained on sterling, but ended unchanged at £1.082.

The punt had formed DM2.65 during the day. "There is an appetite to buy Irish pounds," one currency dealer in Dublin said. "There are a lot of short positions on the punt in relation to ECU and it doesn't take much to incite nervousness."

WORLD INTEREST RATES

MONEY RATES		Over night	One month	Three months	Six months	One year	Long term	Dis. rate	Repo
Belgium	3%	3%	3%	3%	3%	3%	3%	3%	3%
France	3%	3%	3%	3%	3%	3%	3%	3%	3%
Germany	3%	3%	3%	3%	3%	3%	3%	3%	3%
Ireland	0	0	0	0	0	0	0	0	0
Italy	0	0	0	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0	0	0	0
Switzerland	1	1	1	1	1	1	1	1	1
US	5 1/8	5 1/8	5 1/8	5 1/8	5 1/8	5 1/8	5 1/8	5 1/8	5 1/8
Japan	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2

LIBOR FT London
Interbank Piling - 58 58 58 58 58 58 58 58 58 58
US Dollar Cdn - 48 48 48 48 48 48 48 48 48 48
ECU Linked De - 32 32 32 32 32 32 32 32 32 32
SDR Linked De - 32 32 32 32 32 32 32 32 32 32

LIBOR Interbank rates are offered rates for 30 days quoted in the market by four reference banks at 11am each working day. The banks are: Citibank, Bank of Tokyo, Deutsche Bank and National Westminster. The rates are shown for the domestic money rates. LIBOR Cdn, ECU & SDR Linked Deposits are also shown.

EURO CURRENCY INTEREST RATES

Euro 11		Short term	7 days notice	One month	Three months	Six months	One year
Belgium	3%	3%	3%	3%	3%	3%	3%
Denmark	3%	3%	3%	3%	3%	3%	3%
France	3%	3%	3%	3%	3%	3%	3%
Germany	3%	3%	3%	3%	3%	3%	3%
Greece	3%	3%	3%	3%	3%	3%	3%
Ireland	3%	3%	3%	3%	3%	3%	3%
Italy	3%	3%	3%	3%	3%	3%	3%
Netherlands	3%	3%	3%	3%	3%	3%	3%
Portugal	3%	3%	3%	3%	3%	3%	3%
Spain	3%	3%	3%	3%	3%	3%	3%
Sweden	3%	3%	3%	3%	3%	3%	3%
Switzerland	3%	3%	3%	3%	3%	3%	3%
UK	3%	3%	3%	3%	3%	3%	3%
US	3%	3%	3%	3%	3%	3%	3%

Short term rates are call for the US Dollar and Yen, others two day/30 day/90 day/180 day/360 day/540 day/720 day/1080 day/1440 day/1800 day/2160 day/2520 day/2880 day/3240 day/3600 day/4020 day/4380 day/4740 day/5100 day/5460 day/5820 day/6180 day/6540 day/6900 day/7260 day/7620 day/7980 day/8340 day/8700 day/9060 day/9420 day/9780 day/10140 day/10500 day/10860 day/11220 day/11580 day/11940 day/12300 day/12660 day/13020 day/13380 day/13740 day/14100 day/14460 day/14820 day/15180 day/15540 day/15900 day/16260 day/16620 day/16980 day/17340 day/17700 day/18060 day/18420 day/18780 day/19140 day/19500 day/19860 day/20220 day/20580 day/20940 day/21300 day/21660 day/22020 day/22380 day/22740 day/23100 day/23460 day/23820 day/24180 day/24540 day/24900 day/25260 day/25620 day/25980 day/26340 day/26700 day/27060 day/27420 day/27780 day/28140 day/28500 day/28860 day/29220 day/29580 day/29940 day/30300 day/30660 day/31020 day/31380 day/31740 day/32100 day/32460 day/32820 day/33180 day/33540 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COMMODITIES AND AGRICULTURE

DMG gives up LME ring dealing

By Kenneth Gooding,
Mining Correspondent

Deutsche Morgan Grenfell, part of the Deutsche Bank group, yesterday gave up its ring-dealing membership of the London Metal Exchange, reducing the number of ring dealers to 15.

This follows the departure from the ring of Lehman Brothers Commodities last November. But Mr David King, LME chief executive, insisted last night: "There is no flight from the LME."

Both he and DMG said yesterday's change had nothing to do with the

Sumitomo scandal last June, when the Japanese group sacked its chief copper trader, alleging he had run up losses of \$2.6m by unauthorised trading.

Since then, traders suggest, copper market business has fallen, but Mr King said last night that the LME's turnover so far this year was 18 per cent up on the same months of 1996.

He pointed out that DMG had switched to being an associate broker clearing member of the LME, that it remained committed to the base metals business but was refocusing its efforts.

Mr Charles von Arentschildt, who

joined DMG in New York from Morgan Stanley two months ago as global head of commodities, said: "This was an economic decision. It was to do with cutting costs and providing a better service to clients."

He said DMG provided a 24-hour service to clients and this meant that either this service had to be interrupted when staff left to take part in the LME's twice-daily ring dealing sessions, or there had to be staff duplication. DMG will make an as yet unspecified number of staff redundant.

Mr von Arentschildt said investment banks such as DMG had a

broad range of activities and being an LME ring dealing member did not fit with this type of business.

The daily reporting of LME stock details, started in April for a six-month trial, would become a permanent feature, said Mr King, as it "seems to be of benefit to users".

From October 1, separate details would be given daily of stocks of formerly LME warranted metal held in exchange-approved facilities for which the warrants had been cancelled pending movement of the metal, he said, and other changes would be made to enhance the transparency of LME stocks.

Copper price at highest for a year

By Kenneth Gooding
and Maggie Urry

Copper's price jumped to the highest level for a year yesterday but coffee went cold. Both markets were heavily influenced by chart watching technical traders.

Copper for delivery in three months on the LME closed at \$2.561 a tonne, up \$47 or nearly 2 per cent from Tuesday's close, after reaching \$2.570. Mr William Adams, analyst at Rudolf Wolff, suggested the next technical resistance on the charts would be at \$2.590.

The premium for copper for immediate delivery compared with three-month metal widened to \$102.50 a tonne. Analysts said this reflected growing tightness of supply. Mr Robin Ehar at Brande (Brokers) said a "confluence of supply interruptions" had given fundamental support to the price.

"You might not want to buy copper at these prices but you certainly don't want to be short," he added.

Coffee traders continued Tuesday's sell-off, with prices on Liffe down \$145 to \$1,880 a tonne for the July robusta contract. In New York the market opened weak, although some short-covering stabilised prices around midday.

Traders said the price fell through chart support levels at \$110 cents a pound, down from the \$117.95 close on Tuesday, for July arabica, although some buying appeared at 207 cents.

Reports from South America were mixed, with the Brazilian National Coffee Council saying stocks held by co-operatives were at an all-time low, while in Colombia, the National Coffee Growers' Federation said May production had risen 12 per cent to 836,000 60kg bags.

Venezuela diamond initiative

By Raymond Collitt
in Caracas

Ramat-Gan, the Israeli diamond exchange which is one of the largest of its kind in the world, is seeking to set up a bourse in Venezuela to market rough-cut diamonds and help set up a diamond processing industry.

Representatives of the Israeli exchange have completed a feasibility study to set up a diamond bourse in the south-eastern city of Ciudad Bolívar.

"We are very optimistic and have received the full support of the Venezuelan authorities," said Mr Yosef Kemper, who heads the committee promoting the Venezuelan exchange. It would be Latin America's first diamond exchange, he added.

Official diamond output in Venezuela is only about 300,000 carats a year, but mining experts say the majority of production is illegal and therefore not registered. However, the Corporación Venezolana de Guayana, the state industrial and mining body, expects to announce a tender for diamond mining licences this year as part of its efforts to attract large foreign mining investment.

Manila revamps mining regime

Overseas mining companies are queuing up to start operations in the Philippines, and the government is increasingly keen to make them feel welcome.

Unattractive tax regimes and political uncertainty dogged the country during the 1980s, the mining industry was closed to foreigners until 1995 and overseas groups were more recently unsettled by the government's reaction to a serious mining accident last year.

But in the next three weeks, Mr Horacio Ramos, director of the government's mines and geosciences bureau (MGB) in Manila, expects to finalise details of the fiscal regime to be employed for foreign groups entering the country.

The government is now negotiating revenue-sharing arrangements with mining companies and says it is looking at a total stake of about 50 per cent of net mining revenues.

The sector has lain more or less dormant for about two years, and overseas mining groups were worried by tougher environmental standards and fines introduced last December in the aftermath of an accident at the Maricopper mine in Marikina, in which millions of cubic metres of tailings (waste) leaked into a river.

But in spite of these wor-



Bulawan, the Philippines' largest gold mine.

Justin Marozzi

ries, interest in the mining sector is considerable - there are 126 mining licence applications sitting on Mr Ramos' desk, including many from foreign groups such as Western Mining, Newmont, TVI Pacific and Chase Minerals, which are applying for copper and gold or gold-only exploration permits.

In the aftermath of the fraud at Canadian mining company Bre-X's Buzang deposit in Indonesia, the biggest in mining history, "major companies may now find the Philippines the logical place in which to invest and we're saying we'll welcome them," says Mr Ramos.

"We have a mining law in place providing an attractive fiscal regime which we think is one of the best in the world."

The Philippine archipelago is rich in metallic and non-metallic mineral deposits. "After South Africa, we are number two in the world in terms of gold endowment and number of deposits per unit area," says Mr Rolando Peña, president of the Geological Society of the Philippines.

One group which is testament to the country's high potential is Philgold, a subsidiary of the local Philrex mining group, which operates the Bulawan gold mine in the western province of Negros Occidental.

In 1996, its first year of commercial operations, it became the country's largest gold mine with production of 90,000 ounces, 15 per cent of total primary gold recovered. This year it is aiming for output of 165,000 ounces.

To prepare for this expansion, it has increased initial leaching capacity from 2,200 tonnes a day, and is forecasting capacity of 4,000 tonnes a day by the third quarter.

"The most important attraction of the Philippines is the presence of gold, especially in the southern region of Mindanao," says Mr Jose Anlevar, vice president of operations at Bulawan.

"Then you have the skills of Filipino miners. We have been mining in the country since the beginning of the century. Finally, unlike before, we have a stable government."

Events at Bre-X have left some question marks hanging over the Philippines. Like many mining companies in the region, Bre-X employed a team of Filipino geologists, whose association with the debacle has cast doubt on the integrity of the local workforce.

The Bre-X fiasco also dealt a blow to small mining companies, which rely on keeping their share prices moving to raise capital. But Mr Ramos argues this loss will be compensated for by the big mining companies queuing up for the chance to begin exploring. After a long time in the wilderness, the Philippines is set for the world's latest gold-rush.

Justin Marozzi

COMMODITIES NEWS DIGEST

Jamaican bauxite refiners to merge

Two Jamaican bauxite refiners, Alumina Partners and Jamalco, are merging their mining operations to reduce costs and improve efficiency. The companies said the agreement would be concluded by the end of the year, and joint mining would begin in January.

Alumina Partners, owned by Kaiser Aluminum of the US and Nydro Aluminum of Norway, is Jamaica's largest refiner, with annual alumina production of 1.45m tonnes. Jamalco is owned by the Aluminum Company of America and the Jamaican government, and produces 850,000 tonnes a year. "This will allow the companies and the industry to benefit from economies of scale," said Mr Parris Lyew-Ayee, managing director of the Jamaica Bauxite Institute.

The merger of mining operations is part of a wider effort by the government and refiners to cut costs in the Jamaican industry. Refiners have previously complained that production costs in Jamaica, the world's third largest bauxite producer after Australia and Guinea, are comparatively high. About \$500m is being spent by refiners over the next four years to expand capacity and cut operating costs.

The island's bauxite ore production this year is forecast by the Jamaica Bauxite Institute at 12m tonnes, following last year's 11.7m tonnes. Production reached 2.95m tonnes in the first quarter of this year, 1.7 per cent more than a year earlier. Alumina production was up 2.4 per cent to 516,591 tonnes.

Carmit James, Kingston

Uranium plan challenged

A bid by Energy Resources of Australia, part of the North mining group, to develop a uranium mine in the Northern Territory faces a potential legal problem after a claim was filed in the Sydney courts yesterday by one of the traditional owners of Jablukka lands. The application by Ms Yvonne Margurula, a member of the Mirrar community, attempts to prevent the authorities giving approval to the export of uranium from mining on the Jablukka land, and seeks a declaration that the Australian Commonwealth is the owner of the uranium and has not granted a valid interest to any other party.

However, ERA, which is not named in the claim itself, said it believed the grant of a lease on the Jablukka area in 1992 remained valid. It claimed yesterday that other traditional owners in the region had indicated support for uranium mining.

Nikki Toit, Sydney

Progress for steel project

The ambitious A\$1.4bn "Mid-West Iron and Steel" project, which is being proposed by Taiwan's An Feng Steel and the Australian Kingstream Resources group, took a further step forward yesterday when the partners named Epic Energy as the successful bidder for a 15-year contract to transport gas from the North-West Shelf to the project's planned steel-manufacturing plant near Geraldton, in Western Australia.

Epic, which is 60 per cent-owned by El Paso Energy and CNG International of the US, will use an existing pipeline, under an agreement with the state-owned AlintaGas utility, but also underwrite an A\$300m (US\$225m) enhancement of the pipeline system.

Nikki Toit

COMMODITIES PRICES

BASE METALS

LONDON METAL EXCHANGE

(Prices from Antismelted Metal Trading)

ALUMINIUM, 99.7% purity (\$ per tonne)

Close 1806.5-7.5 1825-26

Previous 1807.5-8.5 1808-9

High/Low 1807.5-8.5 1808-9

AM Official 1808-9 1809-10

Karb close 1808-9 1809-10

Open int. 200,095

Total daily turnover 95,827

ALUMINIUM ALLOY (\$ per tonne)

Close 1460-65 1480-90

Previous 1450-55 1470-50

High/Low 1450-55 1470-50

AM Official 1450-55 1470-50

Karb close 1450-55 1470-50

Open int. 5,372

Total daily turnover 537

LEAD (\$ per tonne)

Close 632-35 640.50-1.50

Previous 625.5-9.5 640.50-1.50

High/Low 625.5-9.5 640.50-1.50

AM Official 625-30 630-40

Karb close 625-30 630-40

Open int. 34,801

Total daily turnover 6,480

NICKEL (\$ per tonne)

Close 7190-920 7300-10

Previous 7180-90 7290-300

High/Low 7180-90 7290-300

AM Official 7210-15 7400/7250

Karb close 7210-15 7400/7250

Open int. 53,404

Total daily turnover 12,354

ZINC (\$ per tonne)

Close 5025-65 5010-20

Previous 5030-40 5070-75

High/Low 5030-40 5070-75

AM Official 5071-72 5050/5500

Karb close 5071-72 5050/5500

Open int. 18,343

Total daily turnover 7,542

ZINC, special high grade (\$ per tonne)

Close 1347.5-48.5 1371.5-72.0

Previous 1338-39 1362-65

High/Low 1347.5-48.5 1371.5-72.0

AM Official 1347.5-48.5 1371.5-72.0

Karb close 1347.5-48.5 1371.5-72.0

Open int. 95,505

Total daily turnover 20,000

COPPER, grade A (\$ per tonne)

Close 2672-75 2689-87

Previous 2685-8-5 2695-9-5

High/Low 2672-75 2689-87

AM Official 2672-75 2689-87

Karb close 2672-75 2689-87

Open int. 130,567

Total daily turnover 66,583

LME ALUMINUM 5% rate, 1.8387

LME CHANGING 2% rate, 1.8433

Spot 1.8377 3 mths 1.8336 6 mths 1.8299 9 mths 1.8255

HIGH GRADE COPPER (COMEX)

Sett Day's price change High Low Vol Int

Jan 121.50 +1.85 121.80 123.30 718 1,765

Feb 121.80 +1.70 121.90 119.70 201 2,524

Mar 119.50 +1.00 119.60 118.00 1,513 7,282

Apr 115.70 +1.00 - - 11 1,147

May 113.75 +1.70 - - 18 1,224

Jun 113.75 +1.70 - - 18 1,224

Total 12,819 58,590

PRECIOUS METALS CONTINUED

GOLD COMEX (100 Troy oz; \$ per oz)

Sett Day's price change High Low Vol Int

Jan 343.8 -0.1 344.1 343.2 25 50

Feb 343.8 -0.1 344.1 343.2 25 50

Mar 343.8 -0.1 344.1 343.2 25 50

Apr 343.8 -0.1 344.1 343.2 25 50

May 343.8 -0.1 344.1 343.2 25 50

Jun 343.8 -0.1 344.1 343.2 25 50

Total 121 600

PLATINUM NYMEX (50 Troy oz; \$ per oz)

Sett Day's price change High Low Vol Int

Jan 443.8 -0.1 444.1 443.2 25 50

Feb 443.8 -0.1 444.1 443.2 25 50

Mar 443.8 -0.1 444.1 443.2 25 50

Apr 443.8 -0.1 444.1 443.2 25 50

May 443.8 -0.1 444.1 443.2 25 50

Jun 443.8 -0.1 444.1 443.2 25 50

Total 121 600

PALLADIUM NYMEX (100 Troy oz; \$ per oz)

Sett Day's price change High Low Vol Int

Jan 213.20 +0.70 213.90 212.00 10 242

Feb 213.20 +0.70 213.90 212.00 10 242

Mar 213.20 +0.70 213.90 212.00 10 242

Apr 213.20 +0.70 213.90 212.00 10 242

May 213.20 +0.70 213.90 212.00 10 242

Jun 213.20 +0.70 213.90 212.00 10 242

Total 60 242

SILVER COMEX (5,000 Troy oz; \$ per oz)

Sett Day's price change High Low Vol Int

Jan 47.2 +0.1 - - 21 23

Feb 47.2 +0.1 - - 21 23

Mar 47.2 +0.1 - - 21 23

Apr 47.2 +0.1 - - 21 23

May 47.2 +0.1 - - 21 23

Jun 47.2 +0.1 - - 21 23

Total 104 242

ENERGY

CRUDE OIL NYMEX (1,000 barrels; \$ per barrel)

Sett Day's price change High Low Vol Int

Jan 19.12 +0.45 19.10 18.75 32,330 55,334

Feb 19.12 +0.45 19.10 18.75 32,330 55,334

Mar 19.12 +0.45 19.10 18.75 32,330 55,334

Apr 19.12 +0.45 19.10 18.75 32,330 55,334

May 19.12 +0.45 19.10 18.75 32,330 55,334

Jun 19.12 +0.45 19.10 18.75 32,330 55,334

Total 19,120 55,334

CRUDE OIL ICE (\$ per barrel)

Sett Day's price change High Low Vol Int

Jan 18.15 +0.38 18.10 17.95 11,640 36,074

Feb 18.15 +0.38 18.10 17.95 11,640 36,074

Mar 18.15 +0.38 18.10 17.95 11,640 36,074

Apr 18.15 +0.38 18.10 17.95 11,640 36,074

May 18.15 +0.38 18.10 17.95 11,640 36,074

Jun 18.15 +0.38 18.10 17.95 11,640 36,074

Total 11,640 36,074

HEATING OIL NYMEX (42,000 US gal; \$ per gal)

Sett Day's price change High Low Vol Int

Jan 52.45 +0.00 52.50 51.40 12,308 36,337

Feb 52.45 +0.00 52.50 51.40 12,308 36,337

Mar 52.45 +0.00 52.50 51.40 12,308 36,337

Apr 52.45 +0.00 52.50 51.40 12,308 36,337

May 52.45 +0.00 52.50 51.40 12,308 36,337

Jun 52.45 +0.00 52.50 51.40 12,308 36,337

Total 12,308 36,337

NATURAL GAS NYMEX (10,000 cu ft; \$ per cu ft)

Sett Day's price change High Low Vol Int

Jan 2.105 -0.017 2.105 2.100 16,717 31,009

Feb 2.105 -0.017 2.105 2.100 16,717 31,009

Mar 2.105 -0.017 2.105 2.100 16,717 31,009

Apr 2.105 -0.017 2.105 2.100 16,717 31,009

May 2.105 -0.017 2.105 2.100 16,717 31,009

Jun 2.105 -0.017 2.105 2.100 16,717 31,009

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[illegible]

LONDON SHARE SERVICE

INV TRUSTS SPLIT CAPITAL - Cont.

Company	Price	Change
...

OTHER INVESTMENT TRUSTS

Company	Price	Change
...

INVESTMENT COMPANIES

Company	Price	Change
...

LEISURE & HOTELS

Company	Price	Change
...

LIFE ASSURANCE

Company	Price	Change
...

MEDIA

Company	Price	Change
...

MEDIA - Cont.

Company	Price	Change
...

OIL EXPLORATION & PRODUCTION

Company	Price	Change
...

OIL, INTEGRATED

Company	Price	Change
...

PAPER, PACKAGING & PRINTING

Company	Price	Change
...

PHARMACEUTICALS

Company	Price	Change
...

PHARMACEUTICALS - Cont.

Company	Price	Change
...

PROPERTY

Company	Price	Change
...

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* Source: FT 500 Survey, January 1997

PROPERTY - Cont.

Company	Price	Change
...

RETAILERS, FOOD

Company	Price	Change
...

RETAILERS, GENERAL

Company	Price	Change
...

RETAILERS, GENERAL - Cont.

Company	Price	Change
...

SUPPORT SERVICES

Company	Price	Change
...

Company	Price	Change
...

SUPPORT SERVICES - Cont.

Company	Price	Change
...

TELECOMMUNICATIONS

Company	Price	Change
...

TEXTILES & APPAREL

Company	Price	Change
...

TEXTILES & APPAREL - Cont.

Company	Price	Change
...

TOBACCO

Company	Price	Change
...

TRANSPORT

Company	Price	Change
...

WATER

Company	Price	Change
...

AIR

Company	Price	Change
...

AM

Company	Price	Change
...

CANADIANS

Company	Price	Change
...

AM - Cont.

Company	Price	Change
...

AMERICANS

Company	Price	Change
...

CANADIANS

Company	Price	Change
...

SOUTH AFRICANS

Company	Price	Change
...

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Footsie backs off after hitting record high

**By Steve Thompson,
UK Stock Market Editor**

The smaller stocks also looked well bid and the FTSE SmallCap

The market's early strengthening came in the form of the sharp rise in shares of Energy Resources Group, demutualized earlier this year from Hanson Energy was responding to news of the bid approach from Pacificorp of the U.S. released after Tuesday's close. Dealers said the market had also been driven higher by widespread talk of another bid.

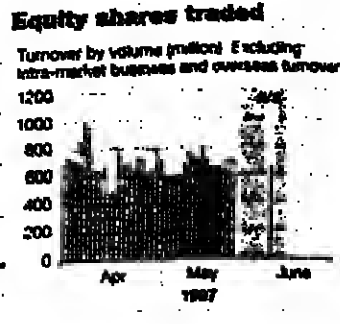
The financial sector, heavily bought in recent months as the demutualization bandwagon began to roll, was seen as the most likely to provide a takeover.

Footsie was driven up to a record 4,758.35 only minutes after the official opening, but subse-

Other marketmakers also took

The day's economic news, showing a smaller-than-expected fall in unemployment and average earnings and unit wage costs in line with market forecasts, had

National Westminster reacted predictably to reports that the bank had indicated that current forecasts are too high. Dealers also fretted about rumours the bank might be forced into an rights issue-funded acquisition.



Best performing sectors

1	Electricity	2007-2008	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031	2031-2032	2032-2033	2033-2034	2034-2035	2035-2036	2036-2037	2037-2038	2038-2039	2039-2040	2040-2041	2041-2042	2042-2043	2043-2044	2044-2045	2045-2046	2046-2047	2047-2048	2048-2049	2049-2050	2050-2051	2051-2052	2052-2053	2053-2054	2054-2055	2055-2056	2056-2057	2057-2058	2058-2059	2059-2060	2060-2061	2061-2062	2062-2063	2063-2064	2064-2065	2065-2066	2066-2067	2067-2068	2068-2069	2069-2070	2070-2071	2071-2072	2072-2073	2073-2074	2074-2075	2075-2076	2076-2077	2077-2078	2078-2079	2079-2080	2080-2081	2081-2082	2082-2083	2083-2084	2084-2085	2085-2086	2086-2087	2087-2088	2088-2089	2089-2090	2090-2091	2091-2092	2092-2093	2093-2094	2094-2095	2095-2096	2096-2097	2097-2098	2098-2099	2099-2100	2100-2101	2101-2102	2102-2103	2103-2104	2104-2105	2105-2106	2106-2107	2107-2108	2108-2109	2109-2110	2110-2111	2111-2112	2112-2113	2113-2114	2114-2115	2115-2116	2116-2117	2117-2118	2118-2119	2119-2120	2120-2121	2121-2122	2122-2123	2123-2124	2124-2125	2125-2126	2126-2127	2127-2128	2128-2129	2129-2130	2130-2131	2131-2132	2132-2133	2133-2134	2134-2135	2135-2136	2136-2137	2137-2138	2138-2139	2139-2140	2140-2141	2141-2142	2142-2143	2143-2144	2144-2145	2145-2146	2146-2147	2147-2148	2148-2149	2149-2150	2150-2151	2151-2152	2152-2153	2153-2154	2154-2155	2155-2156	2156-2157	2157-2158	2158-2159	2159-2160	2160-2161	2161-2162	2162-2163	2163-2164	2164-2165	2165-2166	2166-2167	2167-2168	2168-2169	2169-2170	2170-2171	2171-2172	2172-2173	2173-2174	2174-2175	2175-2176	2176-2177	2177-2178	2178-2179	2179-2180	2180-2181	2181-2182	2182-2183	2183-2184	2184-2185	2185-2186	2186-2187	2187-2188	2188-2189	2189-2190	2190-2191	2191-2192	2192-2193	2193-2194	2194-2195	2195-2196	2196-2197	2197-2198	2198-2199	2199-2200	2200-2201	2201-2202	2202-2203	2203-2204	2204-2205	2205-2206	2206-2207	2207-2208	2208-2209	2209-2210	2210-2211	2211-2212	2212-2213	2213-2214	2214-2215	2215-2216	2216-2217	2217-2218	2218-2219	2219-2220	2220-2221	2221-2222	2222-2223	2223-2224	2224-2225	2225-2226	2226-2227	2227-2228	2228-2229	2229-2230	2230-2231	2231-2232	2232-2233	2233-2234	2234-2235	2235-2236	2236-2237	2237-2238	2238-2239	2239-2240	2240-2241	2241-2242	2242-2243	2243-2244	2244-2245	2245-2246	2246-2247	2247-2248	2248-2249	2249-2250	2250-2251	2251-2252	2252-2253	2253-2254	2254-2255	2255-2256	2256-2257	2257-2258	2258-2259	2259-2260	2260-2261	2261-2262	2262-2263	2263-2264	2264-2265	2265-2266	2266-2267	2267-2268	2268-2269	2269-2270	2270-2271	2271-2272	2272-2273	2273-2274	2274-2275	2275-2276	2276-2277	2277-2278	2278-2279	2279-2280	2280-2281	2281-2282	2282-2283	2283-2284	2284-2285	2285-2286	2286-2287	2287-2288	2288-2289	2289-2290	2290-2291	2291-2292	2292-2293	2293-2294	2294-2295	2295-2296	2296-2297	2297-2298	229
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Worst performing sectors

1 Life Assurance	-1.7
2 Alcoholic Beverages	-1.5
3 Engineering: Vehicles	-1.1
4 Leisure & Hotels	-1.0
5 Telecommunications	-0.8

**By Martin Brice
and Joel Kibazo**

**FUTURES
OPTIONS
& FOREX**

That price emerged after the UK coal and electricity group's statement the previous day indicated any offer would be at a 20 per cent.

Rises and falls*		52 Week highs
Total Rises	769	Total Highs
Total Falls	664	Total Lows
Same	1,637	

*Jun 11. *Data based on Equity shares listed

and lows	LIFFE Equity options	
133	Total contracts	53,085
57	Calls	25,471
	Puts	27,614

on the London Share Service.

Dealers said James Cap had raised its 12-month share price target on Lloy TSB to 775p from 750p. Halifax shares dipped 5 to 756¼p, although dealers

Issue price	Amount paid up	Latest Return date	High
205	Nil	20/6	19pm
10	Nil	19/6	1 1/2pm

post premium.

Low	Stock	Close price
16pm	Pillar Props	17
1pm	Tadpole Tech	1

Booker	214
Boots	1,700
Braniff	478
Brit. Aerospace	1,900
British Airways	4,900
British Biotech	1,300
British Energy	5,400
British Land	2,900
British Steel	8,400
Burmah Castrol	1,100
Burnet	9,100

771 ₂	-11 ₂
775	+7 ₂
846	+3 ₂
885 ₂	+15 ₂
728	-1
738	-9 ₂
156	+2
688 ₂	+1
52 ₂	+3 ₂
1015	+7
778	-4 ₂

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The resolutions to be taken at the meeting may include a resolution specifying the terms on which the Liquidator is to be remunerated, and that the meeting may receive information about, or be called upon to approve, the costs of preparing the statement of affairs and convening the meeting.

FTSE All-Share 2247.00 2245.65 2236.88 2237.62 2240.07 2235.25
Time of FTSE 100 Day's High 8:42 AM Day's Low: 4:57 PM, FTSE 100 1987 Hg
Time of FTSE All-Share Day's High 8:45 AM Day's Low: 4:57 PM, FTSE All-Share
Further information is available on <http://www.ftse.com> or contact FTSE
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trade marks of the London Stock Exchange and The Financial Times and
are used by FTSE International Limited.
1. Sector P/E ratios are the Times P/E ratios.

2280.81	2280.58	2280.88	2281.39	2279.82	United Unifont	1
2281.81	2281.58	2281.88	2282.39	2280.82	Vacation	1
2282.81	2282.58	2282.88	2283.39	2281.82	Wash	1
2283.81	2283.58	2283.88	2284.39	2282.82	Wash	1
2284.81	2284.58	2284.88	2285.39	2283.82	Wash	1
2285.81	2285.58	2285.88	2286.39	2284.82	Wash	1
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2299.81	2299.58	2299.88	2300.39	2298.82	Wash	1
2300.81	2300.58	2300.88	2301.39	2299.82	Wash	1
2301.81	2301.58	2301.88	2302.39	2300.82	Wash	1
2302.81	2302.58	2302.88	2303.39	2301.82	Wash	1
2303.81	2303.58	2303.88	2304.39	2302.82	Wash	1
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2306.81	2306.58	2306.88	2307.39	2305.82	Wash	1
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2308.81	2308.58	2308.88	2309.39	2307.82	Wash	1
2309.81	2309.58	2309.88	2310.39	2308.82	Wash	1
2310.81	2310.58	2310.88	2311.39	2309.82	Wash	1
2311.81	2311.58	2311.88	2312.39	2310.82	Wash	1
2312.81	2312.58	2312.88	2313.39	2311.82	Wash	1
2313.81	2313.58	2313.88	2314.39	2312.82	Wash	1
2314.81	2314.58	2314.88	2315.39	2313.82	Wash	1
2315.81	2315.58	2315.88	2316.39	2314.82	Wash	1
2316.81	2316.58	2316.88	2317.39	2315.82	Wash	1
2317.81	2317.58	2317.88	2318.39	2316.82	Wash	1
2318.81	2318.58	2318.88	2319.39	2317.82	Wash	1
2319.81	2319.58	2319.88	2320.39	2318.82	Wash	1
2320.81	2320.58	2320.88	2321.39	2319.82	Wash	1
2321.81	2321.58	2321.88	2322.39	2320.82	Wash	1
2322.81	2322.58	2322.88	2323.39	2321.82	Wash	1
2323.81	2323.58	2323.88	2324.39	2322.82	Wash	1
2324.81	2324.58	2324.88	2325.39	2323.82	Wash	1
2325.81	2325.58	2325.88	2326.39	2324.82	Wash	1
2326.81	2326.58	2326.88	2327.39	2325.82	Wash	1

0	630	-82
0	200	-1
0	220	+1
7	300	+10
0	700	-10
0	310	+2
0	130	+1
0	470	0
0	570	0
0	700	-2

† indicates an
All indices are
of FT

Highs & Lows shown on a 52 week basis

WORLD STOCK MARKETS

[illegible]

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ASIAN INDICES		Jun 11	Jun 10	Jun 9	High	Low	1987	Low		US INDICES		Jun 11	Jun 10	Jun 9	High	Low	1987	Low	
Argentina (2/27/77)									Japan			7380.27	7475.50	7485.78	7390.27	7381.18	7390.27	7412.22	
Brazil (2/27/77)									Thailand										
Canada (2/27/77)									2nd S&P/US										
France (2/27/77)									1200.15										
Germany (2/27/77)									1200.15										
Italy (2/27/77)									1200.15										
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FINANCIAL TIMES THURSDAY JUNE 12 1997

10

Dow edges further into record territory

Paris rises after two-day decline

AMERICAS

US blue chips paused for breath after their recent record-breaking performance although other stocks still struggled to keep up, writes *John Martinson in New York*.

The Dow Jones Industrial Average managed to keep above the 7,500-point level, at which it closed for the first time on Tuesday, with an increase of 7.83 at mid-session to 7,547.20.

Mr David Shulman, chief strategist at Salomon Brothers, said the "path of least resistance" was still higher for the Dow, partly because of the relatively benign outlook on inflation.

"The market has been given two green lights - the Fed's decision not to raise rates and the bond market rally after last week's unemployment rate," he said.

The next meeting of the Federal Reserve's Open Market Committee in July could provide the first hint of amber, he said.

Prices would continue to rise as long as the yield on the 30-year benchmark bond stayed below 7 per cent. He believed that the Dow could reach 8,000 "sooner rather than later". However, he was less bullish on technology stocks as the sector entered the traditionally subdued summer period.

This view appeared to echo that of the market. The technology-driven Nasdaq composite index failed to match the performance of the Dow again yesterday and fell 5.81 to 1,895.68 by mid-session. Several large groups such as Intel and Cisco posted losses. America Online was also down 1% or 2 per cent to \$59.4.

The Russell 2000, the index of smaller companies, put in a better performance than the Dow, rising 1.2% to 387.30 at mid-session. The S & P 500 index of larger companies edged up 0.77 at 885.99.

Market reaction to the deal creating the largest US

homebuilder was mixed. Pacific Crest rose 1% or 11 per cent to \$154 after its agreed merger with Lennar Corporation. Lennar, which is also to spin off its commercial real estate arm for \$500m, gained 3% to \$30.

Sallie Mae, the student loan company, gained 5% or 4 per cent to \$125.4 after Mr Lawrence Hough, chief executive, announced he planned to resign this summer.

TORONTO traded quietly in dull volume to end the morning session little changed. At the noon calculation, the 300 composite index was off 11.04 at 6,462.

Golds pushed higher but most leading stocks moved in the opposite direction. Alcan Aluminium shed 40 cents to C\$61.20 and Seagram came off 20 cents to C\$27.90. Royal Bank of Canada dipped 20 cents to C\$59.50.

Among golds, Barrick gained 40 cents to C\$34.60 and Placer Dome added 60 cents to C\$26.40.

EUROPE

After two days of declines, PARIS reversed direction with a solid rally for the CAC 40 index, which ended 29.68 better at 2,893.88. Volume was modest at 10.1m shares, but there was no shortage of features.

Motor giant Renault rebounded, seemingly shaking off earlier fears that it might be forced to rethink plans for capacity cuts. The shares rose FF3.20 to FF131 while components group Valeo jumped FF13.20 to FF338.

Upbeat annual meeting statements got behind Schneider and Générale des Eaux, lifting the former FF10.00 to FF131 and the latter FF5.00 to FF131. Havas, in which Eaux has a 30 per cent stake, rose FF10.80 to FF410.9 following an upgrade to "buy" at HSBC James Capel.

Pernod Ricard continued to power upwards, adding FF6.20 to FF307 as analysts warmed to the group's soft drinks supply deal with the McDonald's fast food chain, which has 600 outlets across France.

AMSTERDAM ended a five day winning streak with a decline of 3.82 to 827.15 on the AEX index. Philips did most of the damage, sliding

FI&20 to FI113.5, followed closely by Aegon, which lost FI3.90 to FI142.9.

On the upside, Ahold added a further FI1.70 to FI156.7 ahead of today's results statement. Hagemeyer jumped FI3.00 to FI89.80 for a two-day rise of almost 6 per cent after Goldman Sachs initiated coverage of the shares.

Among second-liners, Pakhoed gained 80 cents to FI67 after an upgrade to "strong outperform" by Lanschot.

FRANKFURT was flat as indecisive early trade on Wall Street failed to provide a lead while next week's Dax options expiry deadline also put a break on market gains.

The Ithie-indicated Dax finished 0.71 higher at 3,671.87 in turnover of DM10.2m as widespread uncertainty over monetary union and the domestic political situation persisted.

Preussag picked up DM12.86 to DM514.50 as the steel and engineering group said that it was seeking a friendly takeover of Hapag-Lloyd, the freight and travel group.

Shares in Altana, the pharmaceuticals group, stormed 7.6 per cent higher to DM1,910 in early trade on speculation that the group was about to unveil a new product and rumours that a

FTSE Actuaries Share Indices

		THE EUROPEAN SERIES									
		10.30	11.00	12.00	13.00	14.00	15.00	Close			
FTSE 100	2385.57	2387.85	2387.82	2386.42	2385.10	2385.87	2386.91	2385.82			
FTSE 200	2428.57	2428.15	2428.50	2428.57	2428.72	2427.80	2428.57	2428.41			
		Jan 10	Jan 11	Jan 12	Jan 13	Jan 14	Jan 15	Jan 16			
FTSE 100	2381.52	2386.57	2376.45	2380.47	2387.70	2387.70	2387.70	2387.70			
FTSE 200	2427.06	2414.36	2401.58	2404.62	2404.62	2404.62	2404.62	2404.62			

share price goal of DM2,800 had been set by a broker. Subsequently, the shares fell back to close just DM1.780 as the company said that a subsidiary expected to receive US approval for a respiratory drug, but it would not be launched until it had concluded clinical tests that could take several years.

Gehe gave up DM1.25 to DM123.50 in spite of an upbeat first-half sales and profits outlook.

ZURICH spent a second day of consolidation after the record-setting rise of the previous five sessions. Derivatives-related selling and the easier dollar also contributed to a 5.3 fall in the SMI index to 5,306.5.

Novartis, bought in recent sessions at the expense of Roche, fell SF3.36 to SF111.850. Roche certificates lost SF7.05 to SF113.045.

Nestlé, trading ex-divi-

day high of 2,371.02. Analysts noted that on Tuesday UCB reported a strong performance in the US for its anti-allergy drug, Zyrtec, and said that it hoped to issue it on the Japanese market next year.

UCB spoke of very favourable performance in all its three sectors and mentioned a possible share split to make the shares more accessible.

STOCKHOLM saw a SKR5.50 rise to SKR291.5 at Ericsson and the general index put on 1.17 at 2,889.88. Trelleborg dipped SKR5.50 to SKR132.5 on news of the Canadian spin-off of its Borden mining arm.

HELSINKI jumped to a record 3,142.52 on the general index, up 33.38, after a reiterated buy recommendation from Merrill Lynch sent Nokia up FM11.50 to 383.50.

ATERNIS was enlivened by the announcement late on Tuesday of the price range for part-floated shares in OTE, the state telecoms company, and early indications of increased interest in the issue.

OTE advanced Dr345 to Dr7,450 and the general index finished 34.72 higher at 1,638.56.

Written and edited by Michael Morgan and Jeffrey Brown

Utility speculation boosts Santiago

SANTIAGO rose strongly in a morning of busy two-way trading.

"The recent rains have helped but the real drive is coming from speculation that an imminent monopoly

ruling in the electrical utility sector will be favourable," said one broker.

Colbun rose 2 per cent to 46 pesos and rival utility Enesa gained 1.5 per cent to 312 pesos.

At mid-session, the IPSA index was up 1.63 or 1.3 per cent at 183.90.

MEXICO CITY made modest progress. At mid-session, the IPC index was 3.06 ahead at 4,145.98.

Tokyo slides 1.2% as exporters retreat

Tokyo fell nearly 1.2 per cent as the dollar weakened and sparked a wave of selling in blue-chip exporters, writes *Gwen Robinson*. The Nikkei 225 average ended 242.62 lower at 20,289.98 after moving between 20,633.86 and 20,282.43.

Trading opened on a firm note, encouraged by New York's overnight record, but foreign exchange movements began driving prices down around midday, as the dollar weakened following publication of data indicating that Japan's April current account surplus nearly doubled from a year earlier.

However, some high-technology issues advanced following similar gains by the sector in New York.

Volume rose from 330m shares to an estimated 360m. Declines led advances 626 to 446 with 201 unchanged. The Nikkei index of all first-section stocks fell 5.16 to 1,508.83 and the capital-weighted Nikkei 300 was down 1.13 at 290.97.

In London, the ISE/Nikkei 50 index rose 2.38 to 1,584.58. Export-driven issues were heavily sold. Pioneer Electronic retreated Y120 to Y2,720, TDK Y80 to Y8,420 and Sony Y50 to Y9,350. Honda shed Y70 to Y3,320 and Toyota Y50 to Y3,390. However, semiconductor-

related stocks advanced. Advantest gained Y110 to Y9,300 and Tokyo Electron Y40 to Y5,520.

Bridgestone, meanwhile, climbed Y60 to Y2,690 on reports that it was expecting to post an 8 per cent increase in unconsolidated recurring profit in the business year to March.

Jusco, the supermarket operator, fell Y120 to Y3,980 following the previous day's arrest of its president, a former executive of Dai-ichi Kangyo Bank, in connection with the scandal surrounding the bank and Nomura Securities. Dai-ichi Kangyo Bank, however, gained Y30 to Y1,360 while Nomura fell Y10 to Y1,380.

Shipbuilders generally advanced, with Kawasaki

Heavy Industries up Y6 to Y531 and Mitsui Engineering and Shipbuilding up Y6 to Y221. In Osaka, the OSE average fell 61.96 to 21,160.73 and volume rose to 21.3m.

TAIPEI moved lower on profit-taking, slipping 125.98 or 1.5 per cent to 8,267.00 on the weighted index in moderately active T\$122.7m turnover.

The electronics sector fell 3 per cent with Taiwan Semiconductor down T\$4 to T\$130.5 and United Microelectronics T\$3.5 lower at T\$86.

SINGAPORE was unsettled by a sharp fall in Cerebos, the food company, which hit a 42-month low as analysts downgraded the stock after its disappointing first half earnings and warning of a tougher second

half. The Straits Times Industrials index lost 21.29 at 1,993.49, the first time that it has ended below 2,000 points since April 29.

Cerebos tumbled to a low of S\$6.45 before rebounding slightly to end at S\$6.75, down S\$1.25 with more than 2.6m shares traded.

HONG KONG finished marginally weaker after a day of large price swings as profit-taking alternated with bargain-hunting. The Hang Seng index eased 18.19 to 14,421.52, having traded between 14,213.95 and 14,576.16.

Merrill Lynch, meanwhile, said that it expected a 10-15 per cent correction in the market from recent highs and that it was reducing its

weighting in the colony in favour of Seoul and Manila.

BANGKOK closed lower in thin trade with foreign investors mostly sidelined by central bank moves to prevent the repatriation of baht funds obtained from the bourse. Turnover was minimal at Bt3.3bn. The SET index ended 5.82 lower at a 97-month low of 521.40.

SYDNEY closed lower after an afternoon session dominated by profit-taking. The All Ordinaries index came off 15.2 at 2,613.7. BHP shed 25 cents to A\$18.66. NAB lost 21 cents to A\$18.77. WELLINGTON rose following strong demand for NZ Telecom, which gained 12 cents to NZ\$7.29 in active trade. The 40 capital index added 17.42 at 2,384.97.

Emerging markets: IFC weekly investable price indices

Market	No. of stocks	Dollar terms		Local currency terms	
		June 6 1997	% Change over week on Dec '96	June 6 1997	% Change over week on Dec '96
Latin America	(248)	698.68	+0.9	+28.9	
Argentina	(30)	1,155.23	+2.4	+21.5	
Brazil	(89)	557.32	-0.4	+0.8	
Chile	(4)	782.18	+0.1	+28.1	
Colombia	(14)	532.33	-2.7	+31.5	
Mexico	(64)	638.37	+3.1	+20.5	
Peru	(17)	263.26	+1.1	+33.9	
Venezuela	(6)	819.44	+4.2	+12.8	
Asia	(709)	341.06	+0.8	-4.8	
China	(162)	85.02	+0.8	+10.2	
South Korea	(158)	242.82	-2.9	-17.3	
Philippines	(90)	172.38	+2.6	+12.5	
Taiwan, China	(77)	96.05	+1.8	+21.0	
Indonesia	(48)	129.79	-0.7	+1.7	
Malaysia	(148)	301.81	+0.8	-10.4	
Pakistan	(28)	231.87	+1.4	+18.4	
Sri Lanka	(6)	144.76	+4.4	-3.6	
Thailand	(84)	190.80	+2.2	+18.6	
India/Middle East	(294)	54.64	+1.2	-22.1	
Czech Rep	(7)	96.44	+1.0	-	
Egypt	(10)	393.77	-3.9	+48.0	
Greece	(12)	267.09	+3.8	+35.7	
Hungary	(40)	125.12	+3.6	+8.7	
Jordan	(7)	188.11	+0.1	-	
Morocco	(5)	125.82	+4.4	-	
Poland	(30)	987.58	-0.2	-4.7	
Portugal	(28)	182.45	+3.6	+24.9	
Russia	(115)	128.81	+2.1	-	
Slovakia	(6)	100.98	-7.0	-	
South Africa	(63)	238.74	+3.4	+13.5	
Turkey	(3)	214.43	+1.8	+14.2	
Zimbabwe	(5)	584.35	+0.6	+19.2	
Composite	(1221)	398.58	+1.1	+11.4	

When a wave of profit-taking washed over the Tel Aviv stock exchange three months ago, traders promised that it would not last long, writes *Judy Dempsey*. They said shares would soon resume their rise and they have been proved right.

Last week, the market rose 3.3 per cent, in average daily turnover that jumped to Shk206.5m, 21 per cent above the month's average of Shk190.5m. The Maad index of 25 leading blue-chip stocks reached a new high, breaking through the psychological 300 points barrier. The Mishtanin index of the top 100 shares was not far behind, closing at 232.63. A year ago, the indices were drifting at about 176 and 167 respectively.

Analysts have consistently argued that TASE shares were underpriced, and urged domestic and foreign investors to take more interest. Other factors have also influenced the market's extraordinarily bullish performance. There has been a wave of successful IPOs. Apart from Bank Leumi, Israel's sec-

ond largest bank that raised Shk630m, they include Comfy Interactive Movies, a developer of hardware and software for children. Earlier this month, Comfy raised Shk100m in an IPO that was 33 times subscribed. Significantly, the offering, the largest in the high-tech sector ever recorded on TASE, attracted foreign investors, which indicated they were returning to the market after several months on the sidelines.

Traders say foreign investors account for 15 per cent of activity, up from zero in the early 1990s but still well behind the levels of 25 per cent to 50 per cent in other emerging markets. Good first-quarter corporate earnings have also driven shares higher, not only in the banking sector, but also among chemical companies.

"The market can be sustained," said Ms Daniela Finn, analyst at Ilanot-Batucha. And for the moment, unlike the situation late last year, the market seems insulated from the stalled peace process.

SOUTH AFRICA

A strong day for financials and platinum stocks pushed Johannesburg's all-share index 20.6 ahead to 7,286.1.

Amid mounting talk of an interest rate cut, the financial index rose 4.5 to 9,739.9. News of Amplats' plan to merge all its platinum interests sent Lebowa Platinum up R1.10 to R4.40. Amplats added 40 cents to R34.40.

The industrial index rose 3.3 to 5,507.4 while golds eased 12.8 to 1,164.5.

FT/S&P ACTUARIES WORLD INDICES

FTSE INTL Actuaries World Index and Standard & Poor's Indices as compiled by FTSE International Limited, Goldman, Sachs & Co. and Standard & Poor's. The indices are compiled by FTSE International and Standard & Poor's in conjunction with the Faculty of Actuaries and the Institute of Actuaries, NatWest Securities Ltd. was a co-compiler of the index.									
REGIONAL AND NATIONAL MARKETS									
Figures in parentheses show number of lines of stock									
TUESDAY JUNE 10 1997									
US Dollar Index	Day's % Change	Pound Starting Index	Yen Index	DM Index	Local Currency Index	% chg on day	Gross Yield	DOLLAR INDEX	
US Dollar Index								US Dollar Index	Yen Index
Australia (76)	234.97	1.3	212.60	167.38	209.71	205.17	1.2	3.75	282.05
Austria (24)	195.85	-0.5	177.12	136.50	174.78	174.78	0.1	1.91	196.87
Belgium (58)	235.17	-0.1	229.77	181.76	227.74	222.00	0.4	1.31	225.44
Brazil (26)	272.36	0.5	248.51	193.09	243.08	587.72	0.5	1.34	271.06
Canada (112)	208.15	0.0	188.25	148.28	185.77	209.22	0.1	1.87	208.14
Denmark (52)	386.97	-0.4	352.68	277.76	348.04	346.62	0.1	1.48	381.33
Finland (29)	270.09	-0.4	240.78	185.85	245.81	257.62	-0.1	1.35	269.83
France (91)	219.37	-1.4	198.38	156.25	195.78	196.84	-0.8	2.34	222.38
Germany (59)	213.78	-0.5	193.32	152.25	190.78	190.78	-0.1	1.48	214.82
Hong Kong (68)	508.39	-2.3	480.88	382.88	484.63	508.32	-2.4	2.98	521.54
Indonesia (27)	297.70	-0.9	214.87	183.31	212.15	254.20	-0.8	1.62	238.73
Ireland (16)	351.98	0.6	318.52	250.70	314.14	327.23	0.3	2.58	343.84
Italy (58)	86.83	-1.2	78.82	61.82	77.58	110.27	-0.5	2.29	87.68
Japan (488)	137.50	0.8	124.35	97.94	122.72	87.94	0.7	0.80	135.47
Malaysia (107)	334.07	-0.8	253.00	190.40	276.88	277.22	-0.7	1.33	338.38
Mexico (27)	148.78	0.8	138.15	104.88	121.59	128.64	0.4	1.17	147.18
Netherlands (18)	384.15	-0.2	347.41	273.82	342.85	358.56	0.2	2.30	385.12
New Zealand (14)	91.37	0.0	82.63	65.08	81.54	70.17	-0.2	4.10	91.40
Norway (11)	314.89	-1.3	284.77	224.28	281.03	306.51	-0.5	2.01	318.14
Philippines (22)	185.26	0.0	150.27	118.43	148.39	218.68	0.0	0.85	186.28
Singapore (42)	381.52	-0.8	353.50	271.72	348.25	355.98	-0.8	1.16	384.83
South Africa (44)	380.66	-0.4	326.17	258.80	321.89	354.61	-0.4	2.45	382.45
Spain (26)	252.86	-0.6	228.68	180.10	225.67	278.61	-0.1	2.35	265.45
Sweden (48)	458.59	0.1	414.73	326.65	408.28	528.94	0.8	1.96	458.13
Switzerland (58)	238.33	-0.5	220.20	176.52	276.52	267.96	-0.1	1.28	231.09
Thailand (43)	51.03	0.8	55.16	48.41	54.47	58.80	-1.1	5.50	60.82
United Kingdom (212)	305.57	1.4	276.36	217.55	272.72	278.35	1.1	3.82	301.47
USA (850)	380.35	0.2	316.84	249.54	282.81	350.05	0.2	1.75	349.50
MONDAY JUNE 9 1997									
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Philippines (22)	185.26	0.0	150.27	118.43	148.39	218.68	0.0	0.85	186.28
Singapore (42)	381.52	-0.8	353.50	271.72	348.25	355.98	-0.8	1.16	384.83
South Africa (44)	380.66	-0.4	326.17	258.80	321.89	354.61	-0.4	2.45	382.45
Spain (26)	252.86	-0.6	228.68	180.10	225.67	278.61	-0.1	2.35	265.45
Sweden (48)	458.59	0.1	414.73	326.65	408.28	528.94	0.8	1.96	458.13
Switzerland (58)	238.33	-0.5	220.20	176.52	276.52	267.96	-0.1	1.28	231.09
Thailand (43)	51.03	0.8	55.16	48.41	54.47	58.80	-1.1	5.50	60.82
United Kingdom (212)	305.57	1.4	276.36	217.55	272.72	278.35	1.1	3.82	301.47
USA (850)	380.35	0.2	316.84	249.54	282.81	350.05	0.2	1.75	349.50
MONDAY JUNE 9 1997									
US Dollar Index								US Dollar Index	Yen Index
Australia (76)	234.97	1.3	212.60	167.38	209.71	205.17	1.2	3.75	282.05
Austria (24)	195.85	-0.5	177.12	136.50	174.78	174.78	0.1</		

Joseph Nicolais

day decline

Aerospace

US authorities and airlines seem unconcerned over the Boeing McDonnell Douglas merger. But in Europe, national squabbles are holding up rationalisation. Michael Skapinker reports

Crucial consolidation

Jat-lagged business travellers sometimes have the feeling that, after hours of flying, they have not really gone anywhere. Airports and taxis look the same wherever they are, and the spread of international retail and restaurant chains means that many cities around the world are acquiring a similar appearance too.

The aerospace industries on either side of the Atlantic, on the other hand, look markedly different. While the US industry is rapidly consolidating through a series of mergers, European companies are finding rationalisation slow going.

European executives recognise that their aerospace industry will have to be rationalised if it is to compete with the Americans. But national squabbles are holding up Europe's progress. The election this month of a socialist government in France threatens to delay the process further.

In the US, Boeing, the world's biggest manufacturer of civil aircraft, plans to take over McDonnell Douglas, the largest maker of military jets. This would produce the world's biggest aerospace and defence company, creating a substantial rival for Lockheed Martin, the US company born of a previous merger.

The Boeing-McDonnell Douglas combination will dwarf Airbus Industrie, Europe's civil aircraft maker, and companies such as British Aerospace and Daimler-Benz Aerospace (Dass) of Germany.

That the Boeing-McDonnell Douglas merger will take place is not yet a foregone conclusion: it still has to be approved by regulators in Washington and Brussels. Washington's approval is likely to present few problems to Boeing. Most in the industry believe that the takeover is taking place with the blessing, if not the active encouragement, of the White House and the Pentagon.

The European Commission is providing more active resistance to the deal. Mr Karel Van Miert, the EU competition commissioner, says Boeing and McDonnell Douglas together will be too strong for Airbus and that the US companies will use government defence money to finance civil aircraft research.

Mr Van Miert has threatened to declare the deal illegal. But it is more likely that he will demand that the two US groups make some concessions to ensure that there is still sufficient competition in the civil aircraft market.

The belief in the aerospace industry is that the takeover will take place. First, Boeing and McDonnell Douglas civil aircraft customers, the airlines, seem unconcerned by the merger. The airlines say that Boeing and Airbus will still continue to fight fiercely for orders.

American Airlines has even welcomed the proposed merger on the grounds that it operates 280 McDonnell Douglas MD-80 aircraft, the servicing of which would now be handled by Boeing. American feared that McDonnell Douglas might close its civil aircraft business, leaving the airlines without a reliable source of spares and service.

The second reason the takeover is likely to be approved is that the international consequences are otherwise likely to be severe. Boeing has warned Mr Van Miert that he risks provoking a transatlantic trade war if he stands in the way of the takeover. The company seems to have high level political support for its warning.

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might mean that the Airbus partners would miss the 1999 deadline for changing its structure. However, he insisted they would eventually reach agreement: "I have no doubt France will eventually come round. It is inevitable. It will come. Everybody knows."

At least the European civil aircraft industry can benefit from the upturn in orders. Both Airbus and Boeing are increasing production to take advantage of the increase in demand from airlines for more aircraft. But both manufacturers and air-

lines know that the current upturn cannot last forever. Even though aircraft are full, airlines are still struggling to make profits.

The world's airlines' net profits on their international scheduled services fell to \$4bn last year from \$5.2bn in 1995, according to the International Air Transport Association. The airlines' collective turnover was \$184.3bn last year, which meant that their net profits represented less than 3 per cent of their revenues.

There was also evidence last year that the airlines were buying more aircraft than was good for them. Passenger traffic increased by 8.9 per cent while seat capacity grew by 7.1 per cent. Although Boeing insists that airlines are ordering aircraft in a more restrained fashion than in previous upturns, last year's figures are slightly worrying.

Mr Gerald Greenwald, chairman of United Airlines of the US, says he hopes that aircraft will continue to be full for some years to come. But the market will eventually turn down. He says: "When it comes to the economic cycle, you can run but you can't hide. I see smooth skies well into the future but eventually the end of the winning streak will have to come."

When it does, Mr Philip Condit, chairman of Boeing, hopes McDonnell Douglas will have been firmly integrated into his company. The enlarged group's defence business should then, he says, be able to compensate for the downturn in civil aircraft orders. He will also hope by then to have trimmed Boeing's costs.

By the time the downturn comes, Europe's aerospace manufacturers will hope, too, that they have overcome their fractiousness. If they have not, the US industry will be the clear winner.

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Boeing (777, above) and McDonnell Douglas (C-17, left) will create the world's biggest aerospace company, dwarfing Airbus and creating a rival for Lockheed

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2 AEROSPACE

BOEING • by Michael Skapinker

Awaiting approval

A global business is the aim, but the EU may yet stall the McDonnell Douglas takeover

Boeing will not make windmills, trains or boats, says Mr Philip Condit, its chairman. The world's leading aircraft maker has tried to diversify in the past, but without success.

"I think that's because we did not know those customers well. We're an aerospace company," says Mr Condit. Nevertheless, under his leadership, Boeing wants to become a very different aerospace company - more international and with substantial businesses in defence and space as well as in civil aircraft manufacture.

If regulators on both sides of the Atlantic give their approval, Boeing will this year take over McDonnell Douglas, vastly increasing its defence expertise.

Boeing is already the leading partner in Sea Launch, an innovative consortium which will launch satellites from a converted off-shore oil rig. The other members of Sea Launch are: Kvaerner, the Norwegian shipbuilder; RSC Energia of Russia; and NPO-Yuzhnoye, a Ukrainian rocket manufacturer.

Earlier this year, Teledest, the brainchild of Mr Bill Gates and Mr Craig McCaw, announced that Boeing would be the prime contractor for the design, construction and launch of 300 low-orbit communications satellites.

Boeing has invested \$100m in the venture, in which it

has a 10 per cent stake.

Above all, Mr Condit, who became chairman this year, wants Boeing to become an international company rather than an American one. Boeing's customers are international, the aerospace business is global, and the group must feel at home wherever it operates and not just in Seattle, where it has its headquarters, he says. Mr Condit admires the way British Petroleum is seen as a local company, BP, wherever it operates, rather than as a UK group.

Boeing aircraft could even be assembled abroad, Mr Condit believes.

Condit believes the McDonnell Douglas takeover will make Boeing a more balanced company

Condit says. "Final assembly is a relatively small part of the business, but it's the most visible. I'd be happy to build final assembly factories where it makes sense."

The biggest task for Boeing, however, will be completing the takeover of McDonnell Douglas. The enlarged Boeing will be the world's biggest manufacturer of both civil and military aircraft. It will have 200,000 employees and a \$48bn turnover. It will be far bigger than Airbus Industrie, the European maker of civil aircraft.

The group will be called

Boeing and its headquarters will remain in Seattle. Its military business will be based in St Louis, where McDonnell Douglas has its headquarters.

Mr Condit believes that taking over McDonnell Douglas, with its larger defence business, will make Boeing a more balanced company. The civil and military aircraft businesses tend to work to different cycles.

At present, civil aircraft orders are booming. Last month Boeing announced it was increasing civil aircraft output by 45 per cent to keep pace with orders from airlines.

By the second quarter of next year, Boeing aims to be producing 43 aircraft a month, compared with 29 a month at present.

However, when the civil aircraft market turns down, Mr Condit hopes that McDonnell Douglas's military orders will take up some of the slack. McDonnell Douglas has a backlog of orders for older F-15s and AV-8B Harriers. The enlarged Boeing will also build F/A-18s for the US navy and the giant C-17 transporter.

First, however, Mr Condit will have to win regulatory approval for the takeover, which is looking more difficult than the group expected.

The problem is not in the US, where the takeover is being vetted by the Federal Trade Commission, but in Europe, where Mr Karel Van Miert, the EU competition commissioner, has expressed strong opposition to Boeing taking over McDonnell Douglas.



Philip Condit rejects EU objection that Boeing will have an overwhelming market share: McDonnell Douglas accounts for only 4 per cent of the world market

The European Commission set out its objections to the takeover in documents sent to Boeing and McDonnell Douglas last month. The commission said it had three principal objections to the takeover. The first is that Boeing's hold over the civil aircraft market would be so overwhelming that Airbus would find it difficult to compete. Together, Boeing and Airbus would have about two-thirds of the civil aircraft market.

The second objection is that US government defence research money could be used to fund Boeing's civil

aircraft projects. The commission's third objection concerns the decision by two US airlines, American Airlines and Delta Air Lines, to appoint Boeing as their exclusive aircraft suppliers for 20 years.

Mr Van Miert says these exclusive deals deprive Airbus of the ability to supply aircraft to some of the world's biggest carriers.

Mr Condit rejects the EU's first objection - that the enlarged Boeing will have an overwhelming market share. McDonnell Douglas, once a power in the civil aircraft business, now accounts for

only 4 per cent of the world market. He says Boeing will gain little more in the way of sales by taking it over.

Mr Condit adds that the 1992 US-EU bilateral agreement strictly limits the amount of financial support governments can give to civil aircraft programmes.

Mr Condit says: "We continue to comply with the bilateral. Since 1993, when we have submitted reports to the US government on this issue, there have been no instances of benefits accruing to US commercial airlines programmes from currently funded US Department of Defence or National Aeronautics and Space Administration (Nasa) contracts."

Mr Condit says the exclusive agreements with American and Delta are not connected with the takeover. The agreement with American was concluded before the takeover was announced. He added that both American and Delta approached Boeing to conclude exclusive agreements and not the other way around.

"These agreements were initiated by American and Delta because airlines are recognising the value of

standardising their fleets with a smaller number of models, then using the leverage of their buying power to get the best possible deal."

Mr Condit says: "Having initially brushed off the possibility that the commission could hold up the takeover, Boeing is now worried about what action the EU could take. If it declares the takeover illegal, the commission could fine the enlarged Boeing equivalent to 10 per cent of its turnover. A fine of nearly \$6bn would not be a good start for the world's new aerospace powerhouse."

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AIRBUS • by Michael Skapinker

Partners debate group structure

BAe and Dasa say the consortium must become a single company to compete effectively

If the UK's new Labour government wants advice on how to confirm its pro-European credentials, it could ask British Aerospace.

The UK group, backed by Daimler-Benz Aerospace (Dasa) of Germany, is battling to turn Airbus Industrie, the world's second biggest aircraft maker, into a single, integrated European company.

In the aerospace industry, the Euroceptics tend to be French. Aerospatiale of France has been arguing for an Airbus des patries, an organisation in which national identities and powers are retained.

The four companies which own Airbus - Dasa, Aerospatiale, BAe and Casa of Spain - are debating how the consortium can compete with Boeing of the US. Boeing, Airbus's larger rival, is about to become even bigger by taking over McDonnell Douglas, also of the US.

The four partners also believe that Airbus needs to be part of the defence industry consolidation slowly taking place in Europe. Absorbing McDonnell Douglas will greatly increase Boeing's defence business. The four partners believe that a modernised Airbus will eventually have to have a large defence division to add to its existing civil aircraft making business.

Early this year, the four signed a memorandum of understanding in which they agreed to change Airbus's legal status. Airbus is at present a *Groupement d'Intérêt Économique*, a French legal construct. As a GIE, Airbus does not make profits or losses in its own right; these accrue to the four partners. It also does not publish accounts.

Airbus makes decisions on the basis of unanimity between the partners. Airbus management in Toulouse is responsible for selling aircraft, but the four partners make the parts in their own factories. The partners' share of Airbus work reflects their holdings in the consortium: Dasa and Aerospatiale each have 37.9 per cent, BAe has 20 per cent and Casa 4.2 per cent.

Dasa and BAe argue that to compete effectively with Boeing, Airbus needs to abandon its GIE status and become a limited company. Airbus also, they say, needs to be in control of every aspect of its business, from



Aerospatiale has been assured that France will not lose its factories

design to manufacturing, sales and service. This would mean the four partners putting their Airbus manufacturing facilities under the control of the new company.

Aerospatiale is not opposed to a change in Airbus's status. The French company says, however, that the four partners should not lose sight of how much Airbus has achieved as a GIE. Since its foundation in 1970, it has won over one-third of the world market for civil aircraft.

While insisting that the new Airbus company take control of all manufacturing, BAe has attempted to reassure Aerospatiale that France will not lose its factories.

Mr John Weston, BAe's group managing director, said in a speech in Hanover in April: "The new company will have to be run by a single unified structure which will manage the business across national boundaries. But national identities will have to be retained. The company will need to retain national governments as customers and providers of investment in research and development."

"Governments will rightly expect a return on such investment in terms of employment, the technological base and perhaps return from export sales. The preservation of national identities must lead to the company being perceived as German in Germany, British in the UK and French in France, rather as Airbus is today."

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Jean Pierson believes Boeing's participation in a joint study was a tactic to prevent Airbus from working on its own large aircraft. City Centre

SUPERJUMBOS • by Michael Skapinker

Sizing up the market

Airbus and Boeing disagree over demand for an aircraft larger than the 747

Boeing of the US, the world's largest aircraft maker, says it has shelved plans to build a 550-seat aircraft. Mr Jean Pierson remains sceptical.

Mr Pierson, managing director of Airbus Industrie, the four member European consortium which is the second biggest manufacturer of civil aircraft, believes Boeing's announcement, made in January, is a ruse. Airbus is still determined to build a passenger jet larger than any flying today. When it does so, Mr Pierson says, Boeing will build one too.

The building of a new large aircraft has created suspicion between the two big manufacturers for years. The largest aircraft in the air at present is the Boeing 747, which carries up to 400 passengers.

Aircraft designers have long been entranced by the thought of building something bigger - with 600 seats, or perhaps even 800 or 1,000. Boeing and Airbus spent some time discussing how they could build one together.

Their planned aircraft, the Very Large Commercial Transport (VLCT), came to nothing. The official

announcement from the five companies, made in 1985, said that while such an aircraft was technically feasible, the market for it was too small. Only two airlines, British Airways and Singapore Airlines, had expressed any interest - too few to justify the expected \$15bn development cost.

Mr Pierson says Boeing's participation in this study was simply a tactic to prevent Airbus from working on its own large aircraft. The two sides were talking about different sizes of aircraft, Mr Pierson says. Boeing wanted to build an aircraft with 600 seats or more. Airbus wanted a 550-seater.

The reason Boeing wanted the bigger aircraft, he says, was that it wanted something which would not compete with the 747. Airbus needs an aircraft which will compete with the 747.

This, in Mr Pierson's view is the difference between the two manufacturers. Boeing has a monopoly of the 400-seat jet market. Airbus does not have an aircraft of this size. Its biggest, the A330, has only 336 seats. Airbus wants to be able to compete with Boeing in all sections of the market, including that for aircraft of 400 seats or more. Boeing, Mr Pierson says, wants this market to itself.

Hence Airbus's decision to go ahead with its plans to develop the A3XX, a family of aircraft, the smallest of which will be slightly bigger than the Boeing 747 and the largest of which would carry more than 600 passengers. Airbus is talking to Lockheed Martin of the US and a consortium of Korean companies about participating in the A3XX project. Airbus says it can build the four-engine aircraft for about \$8bn.

When Boeing sees that Airbus is going ahead with the A3XX, the US group will build its own 550-seater, Mr Pierson predicts. He alleges that Boeing's hope, however, is that Airbus will abandon the A3XX, leaving the US group's monopoly over large aircraft intact.

Boeing says it is not involved in any conspiracy. Its decision to suspend development of its large aircraft, which would have been based on the 747, stemmed from one consideration only: not enough airlines needed such a big aircraft.

Mr Philip Condit, Boeing's chairman, says: "It isn't an elaborate game. It's very straightforward. We've been trying for a number of years to understand the big aircraft market. We agree wholeheartedly that there's a market. The question is: how big is it? We made a pretty good run at it. We didn't get the response that we thought might be there."

Mr Condit says Boeing's research convinced it that the Asia-Pacific region would not be as big a market for super jumbos as previously thought. Instead, Boeing expects the Asian market to witness developments similar to those that have occurred across the Atlantic.

As transatlantic air traffic has grown, the market has fragmented, Mr Condit says. Instead of flying between large airport hubs and then changing to fly on to other cities, passengers are insisting on flying directly to their destinations - what the industry calls point-to-point.

The same development will take place in Asia, Mr Condit says, limiting demand for very large aircraft.

Boeing says that, over the next 20 years, there will be a demand worldwide for 480 aircraft bigger than the 747. That is not enough, the group says, to justify the \$7bn Boeing would have had to spend to develop the aircraft. Airbus disagrees strongly: airlines will buy 1,442 aircraft larger than the Boeing 747 over the next 20 years, the consortium says.

What if Airbus does build the A3XX? Is Mr Pierson right? Will Boeing then build its own large aircraft? Mr Condit says Boeing reserves the right to change its mind. But he adds: "Our conclusion was that it didn't make sense for one player to be in that market, let alone two."

PROFILE Bombardier

Keen eye for a bargain

The Canadian company is now the world's third largest airframe maker

Travellers using the Cincinnati-Northern Kentucky airport quickly discover why Canada's Bombardier has become a force in international aerospace.

Relatively few passengers make Cincinnati their final destination. But Delta Air Lines, one of the big US carriers, has turned the airport into a busy transit "hub" for passengers travelling between North American cities with no direct service.

One terminal is earmarked entirely for flights operated by ComAir, a commuter carrier affiliated to Delta. A dozen or more ComAir planes are lined up at the terminal at any one time, and almost all are 50-seat Canadair Regional Jets (CRJs), made by Bombardier.

ComAir, which already has a fleet of 50 CRJs, ordered another 30 aircraft with options for an extra 45 in late May at a cost of US\$600m. Bombardier has racked up a total of 253 firm orders for the CRJ (of which 163 have been delivered), with another 198 options.

The 50-seat CRJ has helped propel Montreal-based Bombardier into fourth spot among the world's airframe makers (third, if the merger between Boeing and McDonnell-Douglas proceeds).

Bombardier has confined itself to markets that Boeing and Airbus have until recently shied away from. The CRJ is currently its biggest plane.

Bombardier had its origins 60 years ago in rural Quebec, where Mr Joseph Armand Bombardier converted Dodge and Ford cars into snowmobiles, mostly for the use of country doctors.

Snowmobiles remain a sizeable part of its business.

The Bombardier family retains control of the company through multiple voting shares. One of Mr Bombardier's sons-in-law, Mr Laurent Beaudoin, is chairman and chief executive.

Bombardier entered the aerospace business little more than a decade ago when it bought the Canadian government's shares in Canadair, a struggling maker of business jets and waterbombers.

Since then, Bombardier has gained a reputation as a canny buyer of troubled aircraft companies at bargain-basement prices, with its deals typically sweetened by government financial support.

Its stable now includes Toronto-based de Havilland (which makes turboprop commuter aircraft); Northern Ireland's Short Brothers (aircraft components and missiles); and the US's Learjet (business jets). It backed away last year from buying Fokker after concluding that the ailing Dutch company had little to offer.

Aerospace sales climbed 14 per cent in the year to Jan 31, 1997, contributing half Bombardier's total revenues of C\$8bn. Besides snowmobiles and watercraft, the company also has a sizeable railway carriage division centred in

North America and Europe.

Having shown a keen eye for investment bargains, Bombardier is now putting to the test its ability to bring a variety of new aircraft to market.

An extended, 70-seat version of the CRJ was launched earlier this year, with the first deliveries expected in late 2000. The Canadian government has advanced C\$87m in "repayable grants", essentially interest-free loans with repayments in the form of sales royalties.

The decision to extend the CRJ reflects Bombardier's success in capturing a dominant share of a fast-growing market, especially in North America. The CRJ's main rival, the Brazilian-built Embraer 145, comes with a lower price tag, but has a narrower fuselage and a smaller range.

The CRJ and Embraer 145 have enabled airlines to open routes that are too "thin" for larger jets, and too long for turboprops. For instance, Air Canada, one of Bombardier's biggest customers, has used CRJs between Toronto and Minneapolis, and Toronto and Kansas City.

The de Havilland Dash-8 series is also being enlarged with a 70-78 seat version, known as the Series-400 with a range of almost 1,300 nautical miles. Its first flight is due later this year. As of late May, 16 orders

had been placed for Dash 8-400s.

Learjet, which lost market share last year, is due to start deliveries soon of its compact Learjet 45. Bombardier's biggest gamble however, is the Global Express, an inter-continental business jet with a price tag of about US\$35m. The Global Express has a range of up to 6,700 miles.

Three Global Express prototypes are currently undergoing tests. Two are due to be delivered to customers later this year, although certification by the US Federal Aviation Administration is not expected until May 1998.

The Global Express faces tough competition from Georgia-based Gulfstream and from Boeing, which unveiled plans last year for a spacious business jet version of its Boeing 737.

Bombardier says it has so far received "almost" 60 orders for the Global Express. There's a "steady stream" of potential buyers, an official says.

Investors appear optimistic that Bombardier's instinct for new products will be as sharp as its eye for acquisitions. Each big order for the CRJ has triggered a further rise in Bombardier shares. Their value has soared fivefold in the past four years.

Bernard Simon



The Global Express, an inter-continental business jet, is Bombardier's biggest gamble

4 European companies 1 world beating business

Over twenty five years ago Europe decided to enter the commercial airliner market, the result was Airbus Industrie, a world beater from a consortium of Britain, France, Germany and Spain. The rest is history: 1500 Airbus aircraft in service, a further 750 on order and the A3XX high capacity long haul airliner to take us into the future. At British Aerospace we've always believed that the way forward is to forge alliances, share technologies and create long term relationships. Programmes such as Airbus, A1(R), Tornado and Eurofighter time and time again have proved partnerships to be the right policy.



4 European nations 1 unbeatable defence solution

Eurofighter is a single seat air superiority fighter designed to outclass all known adversaries. Yet it hasn't been created by a country flying solo. It's been created by four NATO partners. Which, in turn, involves over 400 companies and will employ more than 150,000 people working at the frontiers of knowledge. Like all aerospace programmes it's vast, complex and technologically demanding. Once again, the route to success has been the approach we've always championed: teamwork.

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BRITISH AEROSPACE

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4 AEROSPACE

REGIONAL AIRCRAFT • by Michael Donne

Direct link to expansion

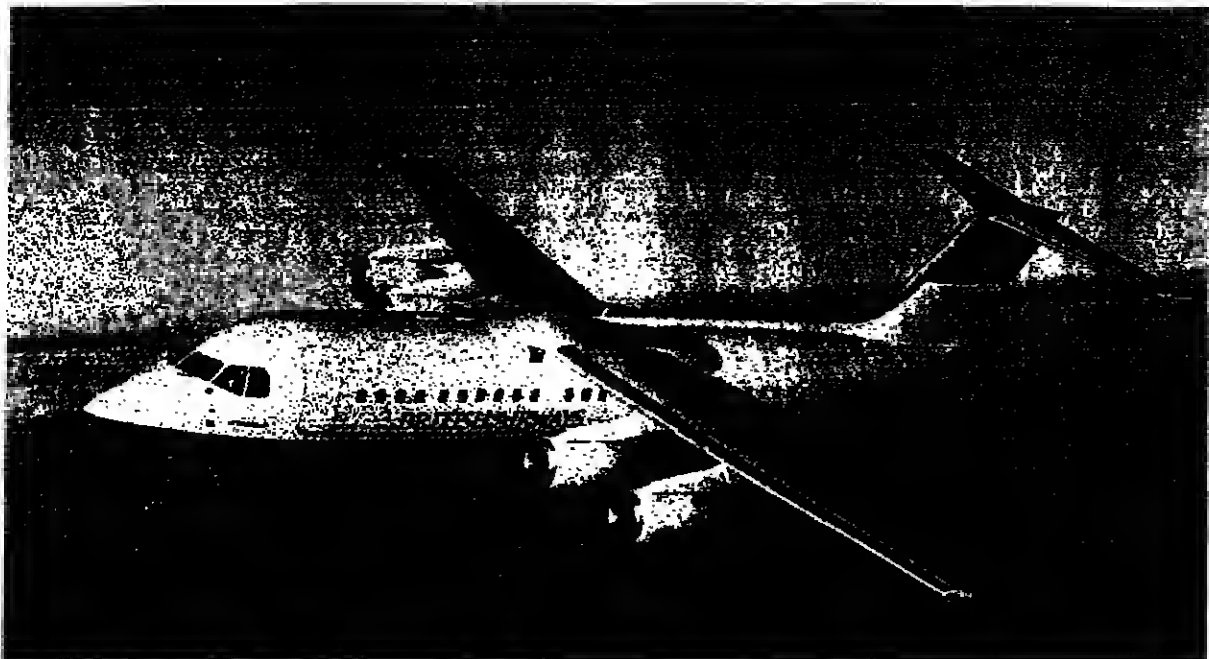
Growth in hub operations and flights between small cities have increased demand

The market for regional aircraft – that is, single-aisle twin-engine aircraft of up to 120 seats – is expected to expand substantially over the next 20 years.

The Airbus Industrie consortium of Europe says in its latest Global Market Forecast to 2016 that demand for single-aisle twin-engine jets of up to 70 and 100 seats could amount to more than 1,600 aircraft. Boeing, in its 1997 Current Market Outlook to the same date, forecasts that demand for jets up to around 90 seats will be 1,351, worth some \$31.5bn, an increase of 8.2 per cent on today's fleet. There would be a further demand for 2,164 aircraft seating up to 120, a gain of 13.4 per cent, worth some \$67bn.

The size category up to about 90 seats would include such aircraft as the British Aerospace Type 146 and the Canadair Regional Jet, while the larger size up to 120 seats would include the Boeing 737-500/600 series, the Bae RJ-100, and the McDonnell Douglas MD-80. In addition to the jets, there are various turbo-propeller airliners available from manufacturers such as Aero International (Regional) – AI(R) – and Saab of Sweden.

Driving this potential market are several factors. While over recent years attention has been focused on trunk-line traffic between major "city-pairs", there has been a less-publicised but nonetheless significant expansion in "hnh" operations, where passengers have transferred onto smaller aircraft for continuation journeys to other destinations not served by the larger airlines, and a substantial growth in direct links between smaller cities and towns, by-passing the major hubs. The aircraft used for these direct links are often more suitable for both the lower traffic densi-



Bae RJ-100 regional jet, built by Avro at Woodford near Manchester, is looking to build up share in a growing market

ties available, and the shorter runways at such locations. At the same time they are quieter, even the jets, and therefore more environmentally acceptable than larger aircraft. For similar reasons, such aircraft are also more suitable for the under-developed regions of the world, where sophisticated infrastructures are not often available.

With such a potential market, there is no shortage of bidders for the business, despite the demise of Fokker of The Netherlands. In Europe, British Aerospace Regional Aircraft comprises two manufacturers – Avro which builds the RJ series of regional jets (the RJ-70, RJ-85 and RJ-100) at Woodford near Manchester, and Jetstream which hitherto has built the J41 turbo-propeller aircraft at Prestwick, Scotland, but that line is now being closed down. Bae plans to fill the gap with aircraft parts production from other parts of the business.

Marketing and customer support for both aircraft types is undertaken by AI(R), a European consortium building both jets and turbo-prop, which is owned in equal proportions by Brit-

ish Aerospace, Aerospaziale of France and Alenia of Italy, with its headquarters in Toulouse. Its products include the turbo-propeller airliners originally developed by Avions de Transport Regional (ATR), the Franco-Italian organisation which now is part of AI(R). The AI(R) range of jet and turbo-prop types variously seating from 20 to 115 passengers collectively gives the consortium a 27 per cent share of the overall world market for regional airliners.

In Canada, the Bombardier group, which includes de Havilland, Canadair, Learjet and Short Brothers of Northern Ireland, and now regarded as the third largest commercial aircraft manufacturer in the world after Boeing and Airbus, not only builds the Canadair Regional Jet of 50 seats and the de Havilland twin-engine Dash 8 series of turbo-prop, but has also launched the Canadair 70-seat CRJ-700 twin-engine jetliner. In addition to members of its own group, including Shorts, international partners in this latest venture include US General Electric (engines) and Rockwell Collins (avionics), Mitsubishi of

Japan on fuselage parts, and Intertechnique of France on the fuel system.

Fairchild of the US, which now owns Dornier of Germany, is planning a 32-seat jet-powered version of its twin-engine Dornier 328 aircraft, with a 50-seat derivative also under consideration. In Brazil, Embraer which already builds the 50-seat EMB-145 jetliner, is planning to turn it into a family, with the addition of 37-seat and 70-seat aircraft.

While the manufacture of regional aircraft, especially jets, is well spread, it is particularly in the Asia-Pacific region that current and future market demand is most intense – some estimates have suggested that up to 2,000 regional jets could be sold in Asia-Pacific over the next 20 years.

This is partly due to the emergence of mainland China as a major market for Western transport aircraft, replacing original reliance on Soviet-built types. This began some years ago with the manufacture of McDonnell Douglas jetliners in Shanghai, and the manufacture of parts for various other Western-developed aircraft but has now been

extended into more ambitious plans for joint international aircraft design, development and production as a means of getting into the market more speedily.

These plans are now becoming focused on development of a new 100-seater jetliner family programme (hitherto broadly called the AE-100 Asian Express, but now known as the AE31X, expected to enter service in 2003). Aviation Industries of China (AVIC) and Singapore Technologies (STPL) are working on it with a new European combine called Airbus Industrie Asia (AIA) comprising the Airbus Industrie consortium of Toulouse and Alenia of Italy (which has a 38 per cent stake in AIA). Last month a framework agreement setting out the co-operation principles between the parties was signed in Beijing between AVIC, Singapore Technologies and, on the European side, Airbus Industrie itself and Finmeccanica of Italy (the parent company of Alenia).

The programme is to be managed through a joint venture company to be set up in China, with shareholdings of 46 per cent for AVIC, 39 per cent for Airbus Industrie, Asia and 15 per cent for Singapore Technologies. Further details are expected to be released at the Paris air show.

Also in the Asia-Pacific region, the European Aero International (Regional) consortium (in which Alenia of Italy is also involved) is discussing a new international 98-144 seat family of regional jets in collaboration with Korea Aerospace Industries (KAI) – replacing the former South Korean Commercial Aircraft Development Corporation, KCADC, in which Daewoo, Korean Air and Samsung are involved. Not to be outdone, Indonesia is also planning development of a family of regional jets seating between 104 and 132 passengers, the N2130, replacing earlier plans for a smaller 50 seat aircraft.

The competition is therefore already intense. Some of the current ambitious development plans may not come to fruition, for the costs of developing a new aircraft, even small regional types, are still formidable, and there have already been difficulties in putting various projected consortia together. Even so, out of the plethora of types planned, for the successful manufacturers the rewards seem likely to be considerable.



Raytheon's Hawker Horizon, due in service in 2001, makes heavy use of composite materials

BUSINESS AIRCRAFT • by Roger Bray

Cautious optimism at the flying office

Sales are soaring, but operators face rising costs and battles over airport slots

Business aircraft sales continue to climb away from recession. Companies wanting the optimum in speed, range and economy may face long queues for delivery. But manufacturers are tempering their revived optimism with caution.

Last year the industry delivered just over 300 jets and nearly 150 turboprops – a combined increase of about 100 more than at the low point in 1992. There are hopes that the annual total for jets alone could hit 350 by the turn of the century. But for each factor encouraging firms to invest in their own aircraft, and these include congested airports, full flights and rising fares, there is at least one balancing deterrent.

On the positive side are: the general growth of business travel, not least to the emerging countries of the former Soviet Union; advanced communications which are turning the corporate aircraft, increasingly, into a flying office; and the spread of fractional ownership, which enables companies to take a share in an expensive jet, rather than pay the whole price.

On the downside, operators face a host of new or imminent regulations which will force them to fit expensive new safety and navigational equipment, and the continuing threat that airlines, hungry for more take off and land slots to accommodate growing traffic, will squeeze them out of major airports.

With basic prices for the most sophisticated jets now topping \$30m, the total market, including turboprops, is reckoned to be worth more than \$5bn a year. The US accounts for about 65 per cent and Europe 12 per cent.

Plans for a supersonic business jet appear to have been pushed to the back burner but manufacturers have emerged from the economic downturn with a stunning new range. They include long range aircraft such as Bombardier's Global Express, expected to be on view for the first time outside the US at the Paris show, the recently certi-

cated Gulfstream V, and Cessna's Citation X, which is claimed to be the world's second fastest passenger aircraft after Concorde.

From the French Dassault stable come two upgraded trijets, the Falcon 50EX and 900EX. Meanwhile Raytheon is offering two new jets, the Premier One, selling at around \$4m and the "super mid-size" Hawker Horizon, costing some \$14.5m.

Both Raytheon's jets, due in service respectively in late 1999 and 2001, make heavy use of composite materials in fuselage construction.

The company says this produces more effective noise insulation and a strength-weight combination which allows more width and headroom in the cabin.

The biggest exponent of composites is the fledgling VisionAire Corporation in Mojave, California, with its

VisionAire claims to have identified a niche for a low cost jet

prototype Vantage which is around 90 per cent carbon graphite. It is now undergoing flight tests. Mr Mark Jones, director of sales and marketing, says that although the material is more expensive than metal it involves far fewer manufacturing man hours. The aircraft was designed to carry four passengers up to 950 nautical miles – New York to Miami, for example – though an increase in fuel capacity may extend its range.

VisionAire's founder, Mr Jim Rice, claims to have identified a niche in the market for a low cost jet. With first deliveries due in spring 1999, the Vantage will sell for \$1.65m.

Much as rental fleets boost car sales, fractional ownership companies are promoting the use of corporate jets to those who might be put off by ownership costs. Indeed, Bombardier has set up its own operation in conjunction with AMR, American Airlines' parent.

Ohio-based NetJet, which pioneered the concept, already operates a fleet of nearly 100 aircraft and has begun operating in Europe.

It allows customers to pay as little as one eighth of the aircraft purchase price, plus a per hour operating charge and a management fee, in return for a promise to make a plane available within a certain number of hours.

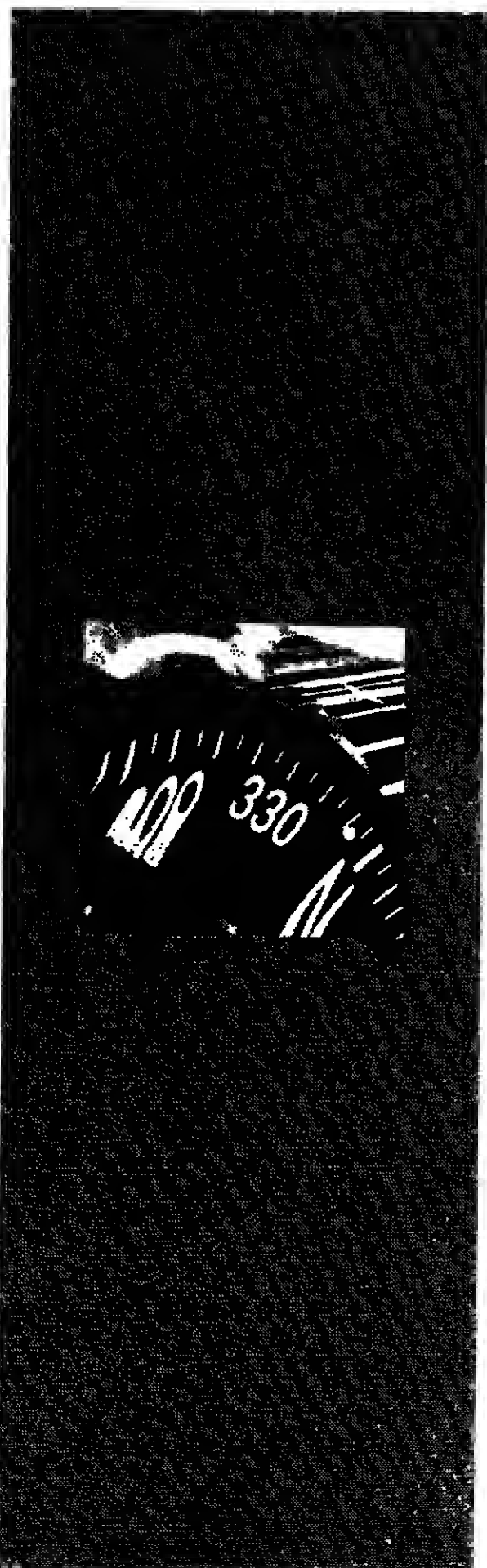
But if an unprecedented variety and choice of aircraft and payment are providing the industry with lift, a host of problems is also increasing drag. Manufacturers complain that they can receive a certificate for a new type from Europe's Joint Airworthiness Authorities, only to find that individual countries within that organisation demand extra modifications.

Liberalisation within the European Union, which has freed operators based in one country to fly commercially anywhere in the community, is tempting companies to use "flags of convenience" – registering aircraft with those national authorities whose demands are least onerous.

That will not help them avoid costly international requirements for new navigation and safety equipment. Long haul operators, for example, could face bills of up to \$300,000 per aircraft to ensure that their altimeter systems are accurate enough to cope with the recent reduction in minimum vertical separation between jets flying across the North Atlantic. Fitting "black box" flight data and cockpit voice recorders could cost another \$36,000.

The biggest headache of all is access to major airports and the undeniable objection from airlines that a business aircraft can take up as much runway capacity as a Boeing 747. This is putting a brake on sales in Asia, where many airports are under severe pressure because of soaring traffic, and in Europe, where operators cite Frankfurt as a particularly frustrating example.

Graham Forbes, chief executive of the UK General Aviation Manufacturers and Traders Association, says: "In the EU, for example, there is a pecking order, putting scheduled airlines and scheduled charter flights first. We believe everyone should be treated equally. It is important to remember that discrimination against business aviation is a major influence on where companies decide to locate."



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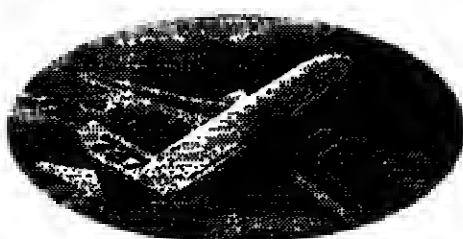
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6 AEROSPACE

ENGINE MAKERS • by Michael Donne



Rolls-Royce Trent series engine: facing sustained competition

Flexible to customers' demands

Sustained growth will bring rewards, but competition remains intense

With world air travel forecast to continue growing at an average of about 5 per cent a year over the next 20 years, the world's airlines are expected to add more than 16,100 new jetliners to their fleets.

The end-1996 total of 11,500 is forecast to increase to 23,600 by 2016, after allowing for the replacement of obsolete and environmentally unacceptable types. As a result, times are looking just as good for the aero-engine builders as for the airframe constructors, and especially for the big three - General Electric and Pratt & Whitney of the US, and Rolls-Royce of the UK.

The potential market will be spread over all types of aircraft and engines. The biggest market by numbers, for both aircraft and engines, is expected to be the small to medium category with single-aisle twin-engine aircraft (mostly for regional operations) taking some 70 per cent of the market. The intermediate sized aircraft will take some 23 per cent, and the large aircraft, such as the Boeing 747, only about 7 per cent.

Manufacturers' estimates vary, but Boeing has put the value of the jet airliner market through to 2016 at some \$1,100bn. Up to about one-third of that sum can be considered likely to be spent on engines, around \$300bn, allowing for inflation, of which most will be for jet engines. Turbo-propeller engines, being smaller and cheaper, will take a smaller share of the overall sum. Consequently, competition, which is already intense, will remain so, if it does not become even tougher.

This applies across the entire spectrum of different types of aircraft, but it is especially marked in the Jumbo aircraft and the associated very big engine fields, which although small in terms of numbers are expected to command as much as 50 per cent by value of the total engine market.

It is because the costs of developing new airframe and engine designs to meet changing market demands are so high, that all the manufacturers have created families from their basic products. This is not a new concept in the airliner manufacturing business, but it has taken on an added importance as different airlines insist on different specifications to suit their own route networks.

The market is now far more customer driven than ever before, and because the competition for the business is so intense, the airframe and engine manufacturers have been obliged to meet the changing demands with the minimum possible changes to their basic core products, thereby minimising costs. Flexibility of response to the customers' demands is the key to long-term success in today's commercial airframe and engine markets.

This is especially the case in the large market now

developing for long-range aircraft with lower seating capacities than the Jumbo jets - around the 300 level - such as the twin-engine Boeing 777 and Airbus A-330 and the four-engine stretched Airbus A-340-500/600. It is in this arena that the bitterest aircraft and engine sales battles are being fought.

For example, there are now several variants of the 777 aircraft as well as several variants of each of the three big thrust engines - the General Electric GE-90, the Pratt & Whitney PW-4000 and the Rolls-Royce Trent - with perhaps even more to come. Each of the big three engine builders is offering engines of up to around 100,000lb thrust for the 777 in its proposed very long range 200X version (capable of carrying 298 passengers over 15,900km or 8,600 nautical miles) and its 300X version, configured to fly 12,200 kilometres but with a bigger payload of 355 passengers.

In the Jumbo market, Boeing decided some months ago, to defer development of its projected 747-500/600 series of Super Jumbos, believing that potential sales of such monsters would be insufficient to justify the development expense involved, leaving Airbus, which takes a much more optimistic view, to continue development of its A-3XX aircraft of 600-plus seats.

But so as not to be left behind, Boeing has also been studying a simple stretch of the 747-400 in an increased gross weight (IGW) version of about 500 seats, believing that it would be wiser to move up the size scale incrementally. Initial reactions from airlines appear to be favourable, but a formal launch will depend on enough firm orders being placed. The engine manufacturers have responded also, with the GE-Pratt & Whitney Alliance offering its joint venture GP7000 engine of 65,000lb thrust for that aircraft, while Rolls-Royce is also competing with another version of the Trent, the model 800.

All the engine manufacturers believe that they can take their big-thrust engines to even higher thrusts if required. Rolls-Royce points out that the inherent growth potential of the Trent was displayed during recent tests in Derby when a Trent 800 series engine generated over 114,500lb thrust. Although certificated at 92,000lb thrust, that engine regularly ran at powers in excess of 100,000lb thrust during its development programme and has approached the new power output record several times during recent tests.

One of the factors that all the engine builders are having to consider carefully in planning their various ventures is the increasing environmental sensitivity towards aviation.

It is now accepted by all the engine companies as well as the airframe builders that pressures to reduce such emissions will become even stronger. Many in the industry now believe these requirements could eventually take precedence in engine design and development over considerations such as thrust output levels and fuel consumption.

PROFILE BMW Rolls-Royce

Partnership for the next century

International collaboration has for many years been a feature of the aerospace industry. Many projects have been undertaken in both civil and military airframes and engines, resulting back to the Anglo-French Concorde of the 1950s and 1960s.

Designed initially to spread the burden of costs on increasingly expensive projects, with the expectation also of winning wider markets, the concept has expanded dramatically and today there is hardly any major new aerospace project that does not involve some form of international partnership, going beyond sub-contracting to embrace financial risk-sharing.

This is especially so in aero-engines, with Rolls-Royce of the UK heavily involved in various partnerships in Europe, North America, Hong Kong and China.

One of Rolls-Royce's most recent joint ventures is with BMW of Germany. BMW Rolls-Royce GmbH was formed as a German joint venture company on July 1,

1990, with Rolls-Royce holding 49.5 per cent of the equity. Its role is to design, develop, manufacture, market and support a family of environmentally clean, quiet and cost-effective engines suitable for the larger business and executive jets, regional airliners, and military transport aircraft, expected in the early years of the next century.

Although more famous for cars, BMW began life as an aero-engine manufacturer in 1917. Before that, German aero-engines were developed and supplied by Motorenfabrik Oberursel, subsequently bought by BMW, with the Oberursel site now owned and operated by BMW Rolls-Royce.

The family of jet engines which has emerged during the 1980s is known as the BR700 Series, developed around a common core. Such a concept increases the versatility of the power-plant (the core engine can be adapted to provide a range of power outputs as required by individual

aircraft manufacturers) and thereby increases the chances of commercial success. The BR700 Series engines have thrusts ranging from 14,000lb to 23,500lb. The company now has an order book valued at more than US \$2bn.

The BR700 Series was launched in March 1991, with the BR710 emerging as the first model in September 1992. The core engine first ran on the test-bed in August 1993, followed on September 1, 1994 by the first full-scale engine run on schedule at the company's Dählwitz high-technology development, test and assembly centre. The engine first flew in November, 1995 and was certificated by the European Joint Aviation Authorities (JAA) in August, 1996. This was followed by certification from the US Federal Aviation Administration in September.

At a thrust rating of nearly 15,000lb, the BR710 version has been highly successful. The engine powers the new, large-cabin long-range corporate jets,

such as the US Gulfstream V and the Canadian Bombardier Global Express. Both aircraft are capable of flying 6,500 miles non-stop. BMW Rolls-Royce is the sole engine supplier in this market segment. From 2000, the BR710 will also power the UK RAF's improved Nimrod 2000 maritime patrol aircraft.

In February, 1994, McDonnell Douglas of the US selected a new variant of the engine, the BR715, capable of thrusts of between 18,500 and 22,000lb, and designed for 90-140 seater regional airliners and large military transport aircraft. This version of the engine is intended for the Douglas MD-95 two-engine airliner programme. The first BR715 ran on the test-bed at Dählwitz on April 28 this year, with first flight set for the second quarter of 1998, followed by certification and entry into service with the launch customer for the MD-95, Valujet Airlines of the US, in September 1999.

A version of the BR715 engine is also available for

other projected new 100-seat twin-engine jets, such as the Chinese-European AE-100. At last November's Zhuhai (China) air show, a long-term collaboration agreement was signed between Aviation Industries of China (AVIC), BMW Rolls-Royce, and Rolls-Royce of the UK.

These agreements are aimed at transferring manufacturing technology and techniques to China, including research work with a group of AVIC-selected research institutes and universities, and AVIC engineers working with BMW Rolls-Royce in Germany. Already, parts for the Rolls-Royce's own Tay engine and the BMW Rolls-Royce BR700 Series are made by the Xian XR Aero Components Company, in which Rolls-Royce holds a 49 per cent equity stake.

The turbo-propeller market also figures strongly in BMW Rolls-Royce's plans. Earlier this year, on February 25, BMW Rolls-Royce presented in Bonn its BR700-TP 10,000

shaft horse-power turbo-propeller engine - its proposal for the projected new European Future Large Aircraft (FLA). The company has assembled a team of leading European aerospace companies to develop the BR700-TP, including Hispano-Suiza of France, ZF Luftfahrttechnik of Germany, and Rolls-Royce Military Aero Engines of the UK. If selected to power the FLA, the engine could be in service in the early 2000s.

BMW Rolls-Royce is continuing its market development studies. Currently these include the possibility of using the BR700 Series to re-engine the Boeing 727 three-engine aircraft, many of which remain in airline service. The Indonesian aircraft company, Industri Pesawat Terbang Nusantara (IPTN), has also been studying the BR700 Series as possible power-plants for its projected N2130 twin-engine 104-132 seat jetliner family.

Michael Donne

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SAFETY • by Roger Bray

A simple lack of funds?

Standards vary considerably around the world, and improvements are expensive

Throwing money at air safety is not the only way of lengthening the odds against disaster - but it helps.

For the world's airlines, the recent, grim sequence of crashes is bound to result in higher costs. Those who can afford it will grime and get on with the job of modifying aircraft and procedures. Those who can't may fall even further behind.

There was a certain irony about last month's tragedy at Shenzhen, when a Boeing 737, operated by China Southern, crash landed and burst into flames on the runway. The restructuring of Beijing's monolithic civil aviation administration has spawned almost 30 scheduled carriers. Only four are considered by the UK Foreign Office to be adhering to "internationally recognised maintenance procedures". China Southern is one of them.

Doubts also persist over the safety of domestic air travel across much of the old

Soviet bloc. There the break up of Aeroflot has created more than 80 scheduled operators. States yet to be given a clean bill of health include Russia itself, Azerbaijan and Kazakhstan.

With so many airlines starting up in such a short time, the question for such emerging nations is how to find adequate resources to monitor their safety procedures.

In Africa, where air traffic control barely exists except around major cities, the issue is often a simple lack of funds. This year has seen at least two crashes which are likely to exacerbate these problems.

The FBI announced recently that it now viewed mechanical failure, rather than a terrorist bomb or a missile, as the most likely cause of last year's TWA disaster off Long Island, in which 230 people died. The US National Transportation Safety Board is keeping its options open but whatever the eventual verdict, the ramifications look certain to be expensive. Though the Board has yet to determine exactly why, it says evidence suggests that an explosion occurred when fuel vapours were ignited in the jet's

almost empty centre wing fuel tank.

It has called for action to reduce the danger of a recurrence. Of its four recommendations, only one is procedural. The others would all require aircraft modifications and only one - the refuelling of aircraft from cooler ground tanks - appears to involve the Boeing 747 alone.

If they are all translated into mandatory instructions by the FAA (Federal Aviation Administration) and safety authorities in other countries, they could affect not just the world fleet of 1,000-plus 747s but other types with similarly located fuel tanks.

The Board wants to see them fitted with heat probes, so that temperatures can be monitored on the flight deck. It suggests fitting insulation between the tanks and nearby equipment which generates heat.

But it is the Board's call for a new look at nitrogen inerting which could prove costliest. Unless there is oxygen present, vapours in the empty part of a tank cannot ignite. The US military has already tackled the problem on some aircraft, including the C-5 transport, by ensur-

ing that the mix of fuel and air is rendered harmless by increasing the nitrogen content. The military experience could help reduce the expense of applying such technology to civil aircraft.

When the possibility was considered in the late 1970s, American manufacturers warned that the total installation and operational cost could reach \$18m over two decades, though an FAA document calling for industry comments on all the NTSB's recommendations leaves it unclear whether the estimate related to all the world's operators - or just those in the US.

Another recent disaster has cost implications specifically for developing countries. The collision between a Saudi Arabian Boeing 747 and an Ilyushin-76TD of Air Kazakhstan near Delhi last November can only increase demands for the worldwide installation of TCAS (traffic alert and collision avoidance systems) which flash flight deck warnings when other aircraft come too close.

TCAS has already prevented several potential accidents but its use in busy airspace continues to cause pilots some concern. It is proving an irritation to

pilots on the North Atlantic, for example, where the development of more accurate altimeters has allowed a recent reduction in minimum vertical separation between aircraft from 2000 feet to 1000. There have been reports that the equipment has set off unnecessary warnings. As one pilot's representative noted: "That's all right as long as they don't say 'ob' - that thing's always going off and ignores it when there's a real risk of collision".

Over Africa, however, such irritations would seem insignificant. Captain Tony van Heerden, a past chairman of the International Federation of Airline Pilots' Associations' accident analysis committee, has put the problem in context: "For those of us who fly in the African region, TCAS is indispensable. Without this warning system, it feels, I imagine, as it would tapping a white stick as you cross a busy highway. You spend a lot of time hoping nothing hits you."

The employment of TCAS is already mandatory in US airspace and will become progressively compulsory in Europe from 2000. The price for equipping a jet already



China Southern Boeing 737 which crash landed on the runway at Shenzhen last month

fitted with the latest electronic flight information systems is around \$85,000. But it can be more expensive if the aircraft is well past its youth. It is in emerging states that such jets are most prevalent. The International Civil Aviation Organisation, a forum for governments, has begun sending specialist teams to countries whose safety authorities are most in need of advice.

Meanwhile their counterparts in the west can carry on fine tuning.

The FAA has reacted to criticism that information on carriers subsequently involved in crashes had not been readily available to the public by listing lapses of procedure or maintenance - provided they merit fines of \$50,000 or more - on the internet.

And in the UK, the Confi-

dential Human Factor Incident Reporting Programme, which was devised to encourage first pilots, then air traffic controllers to report problems without fear of losing their jobs, will be extended on July 1 to include engineering and maintenance staff. To those struggling with fundamentals, such sophistication must appear the height of luxury.

NAVIGATION • by Michael Donne

Safer, faster, and cheaper

FANS promises significant economic benefits as well as efficiency gains

A multi-billion dollar global effort is now under way to ensure that the world air transport industry in the early years of the next century will possess a seamless global air navigation system. This would enhance safety in the increasingly crowded aviation environment, and also help the industry to save money by reducing flight times and fuel bills.

This is the Future Air Navigation System (FANS) - otherwise known as Communications, Navigation and Surveillance/Air Traffic Management, or CNS/ATM, now being developed under the aegis of the International Civil Aviation Organisation (ICAO), the 185 member-state aviation agency of the UN.

This programme, which began during the 1980s, is now rapidly gathering momentum, although it is not expected to be completed until the early years of the next century. It has been devised to ensure safe, orderly and expeditious air transport where normal air traffic management is rendered difficult if not impossible by the limits to existing radar and radio aids, for example over large oceans or remote desert and other areas. It should also ensure that air safety is enhanced in the many ATM areas around the world where air traffic is dense but where disparate levels of capability and efficiency occur.

The feature of FANS is that it is satellite-based. By using a new technique called automatic dependent surveillance (ADS), information on an aircraft's precise position can be transmitted directly from its on-board electronic navigation systems via geostationary satellites (which maintain a fixed position over the earth's surface) to air traffic control centres without any direct action on the part of the flight crew. The ATC centres, either en route, at destination or even the aircraft's home base perhaps thousands of miles away, can track the aircraft's progress, and call it up if any signs of trouble emerge. The system gives the flight crew a freedom to choose their own most direct course without intervention from the ground, thereby saving time and fuel. This has given rise to the term "free flight", but through electronic air-to-ground data transmission links, controllers can still monitor the aircraft and give warnings and directions if necessary.

Another vital element of the system is the creation of a new global aeronautical telecommunications network (ATN) that will link all ATC centres worldwide, enabling the swiftest possible transmission of vital information about all aircraft flights.

The early version of the FANS system, called FANS-A, has already been

extensively tested over the Pacific Ocean and the North Atlantic, with many countries in Europe, North America, Asia-Pacific and elsewhere involved, and has been found to work well.

It has been shown already to give significant economic benefits. For example, on a flight by an Airbus A-340 between Los Angeles and Hong Kong, the use of FANS-A reduced the distance flown by up to 370 nautical miles, a saving of some 48 minutes in flying time.

When extrapolated over a year on some 160 return flights, this saving is calculated to result in more than \$4m. by trading the shorter sector into additional payload. There is a further gain of \$680,000 in reduced operating costs through reduced flying time. The payback for the costs of the advanced on-board equipment can be as short as two years.

With the success of FANS-A in areas of low traffic density, for example in the Asia-Pacific region, the world air transport industry is now moving into the next stage, FANS-B, designed for areas of high traffic density, such as Western Europe, north-eastern US and parts of Asia-Pacific. It is here that the development of the aeronautical telecommunications network will be crucial, and many countries are now working on this, under the auspices of ICAO which has specifically defined the ATN as a major development programme.

Because different parts of the world have different air transport densities, and different economic priorities, it is essential that the FANS A and B systems can be interoperable, enabling aircraft in such a mixed air traffic management environment to fly seamlessly between different parts of the globe without problems.

FANS A, FANS B and non-FANS environments will probably therefore co-exist for many years.

There is still much work to be done, especially in the installation of the necessary advanced airborne and ground systems, and the provision of more satellites, before the ultimate goal of a seamless global air traffic management system is achieved.

It will also be costly, although no precise figures have yet been calculated. The ICAO is aware of this, and has set up a specialist body that includes the various internationally representative bodies of airlines, pilots, air traffic controllers, airports, satellite and electronics equipment manufacturers, and all other key bodies involved in CNS/ATM implementation.

The aim, in the words of Dr Assad Kotaka, president of the ICAO council, is "to establish the closest possible links between all parties so that a firm framework for consolidation and co-ordination can be established to facilitate a rational approach to global implementation of the new technologies".

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The impending abolition of tax and duty free shopping for passengers within the EU could deprive airport operators of \$500m-\$750m a year



Chek Lap Kok: a second runway is to be built, even though the new Hong Kong airport is not yet open

AIRPORTS • by Roger Bray

Relentless search for retail solutions

Pressure is on operators to tap new revenue streams to fund expansion

From glossy shopping malls to virtual reality games, the world's airports are increasingly diversifying beyond their core business in a ceaseless search for new sources of income.

It has been estimated that they will need to spend around \$500bn by 2015 if they are to cope with soaring traffic. The prospect that they will get much of it from governments looks more and more remote. Europe's airport operators, in particular, are on the rack. Pulling one way is the need for massive investment, such as the \$7.5m being pumped into the expansion

of Berlin's Schönefeld. Tugging in the opposite direction is the impending abolition of duty and tax free sales to passengers flying within the European Union, which could deprive them of revenue totalling \$500m-\$750m a year from the summer of 1999.

Three key factors, of which the first is a seemingly relentless increase in passenger numbers, are preoccupying the planners. The International Air Transport Association forecasts that the number of international and domestic air travellers will have increased by 36 per cent between 1996 and the turn of the century alone. That represents a jump of 400m passengers, or more than six times the total handled last year by Chicago O'Hare, the world's busiest airport. Over the same period, it predicts,

international passenger carryings, from and within the Asia-Pacific region will rocket from 134m to 201m a year - never mind domestic traffic.

Airports are running to stand still. Nothing could illustrate the fact more vividly than the recent announcement from Hong Kong that a \$128m contract has been awarded to build a second runway at Chek Lap Kok, even though the new airport is not due to open until next April.

The second factor is continued pressure from the leisure and business travel sectors to hold down fares. There is plenty of evidence that companies which pruned travel expenses during recession have not returned to their more prodigal ways. A recent American Express survey found that 96 per cent of US firms operated cost

controlling air travel policies, compared with 81 per cent in 1994.

Finally, although the Dutch government's decision to throw the environmental implications of further expansion open to public debate could herald a sea change, business leaders fear that if their local airports do not keep pace in the competition for air traffic, they will lose commerce and industry to those that do. A report commissioned by British Airways argued that if Heathrow's Terminal 5 plan was rejected, higher fares and less convenient journey times could cost UK businesses another £1bn and that the country's tourist industry could lose up to £12bn.

For those desperately seeking ways of squeezing quarts out of pint pots, the news has been mixed. Earlier this year Boeing

decided there was insufficient demand from airlines to justify going ahead with the development of a 550-seat Super Jumbo, leaving the field to Airbus Industrie. Against that, the average size of aircraft in service has increased - and with it the number of passengers per flight. Preliminary figures for last year from Airports Council International show that traffic rose by 6.1 per cent while aircraft movements increased by only 1.7 per cent. The difference was most marked in North America, where passenger numbers were up 6.3 per cent but take offs and landings increased by a mere 0.2 per cent.

In Europe, perhaps because liberalisation is encouraging existing and start up airlines to develop new routes where traffic is too light to support the

operation of big jets, the respective figures were 6.2 per cent and 4.4 per cent. Only Africa and Latin America, where movements increased more rapidly than traffic, bucked the general trend.

Delaying the need for new runways does not reduce pressure on terminal space, however. The problem is not just one of overcrowded passenger concourses. Some airports, of which Munich is an example, are facing a shortage of aircraft parking stands. Small surprise then, that airports are looking beyond landing fees and associated revenues in the drive to increase revenues.

The rise and rise of airport retailing is best exemplified by the UK's BAA, one of its supreme exponents. Between the financial years 1986/87 and 1995/96, trading profit from aircraft handling charges at its flagship

airport, Heathrow, roughly doubled from £130m to £252m. During the same period, the expansion of shopping boosted trading profit from other sources by nearly 3½ times to £497m.

Research by consultants Symonds Travers Morgan shows that other airports have a long way to go, however. At Vienna, for example, aeronautical revenues still represent 60.6 per cent of the total against 36.2 per cent from concessions such as restaurants and shops. At Copenhagen the respective percentages are 34.6 and 55.1. And even at Amsterdam's Schiphol, which has developed something of a reputation for duty free shopping, the proportion of revenues accounted for by concessions (22.8 per cent) is only half that from aircraft charges.

Concessions also include

entertainment but airport managements bridle at any suggestion that they might become theme parks. Serious intent and the need to promote amicable relationships with local communities is likely to dictate a strong educational theme. Besides, there is a danger that passengers who are totally absorbed in virtual reality or gambling games could miss their flights.

Some have been wary of exploiting captive markets through gambling. However, those with no flights to destinations outside the EU, who stand to lose their entire duty and tax free income, may find it hard to resist. Though it is an extreme example, Las Vegas airport's 1000-plus slot machines are reckoned to turn over \$20m-\$22m a year. The prospect of earning even a small percentage of that must be sorely tempting.

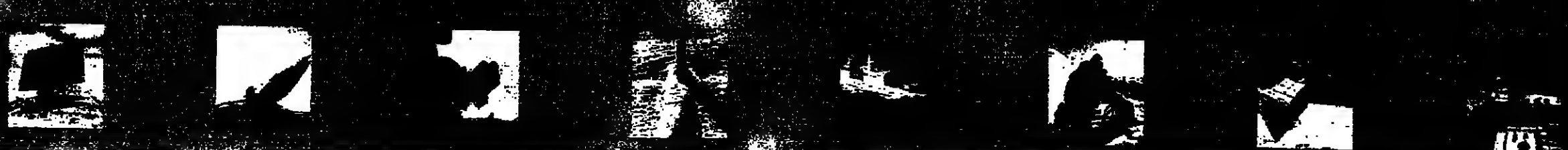
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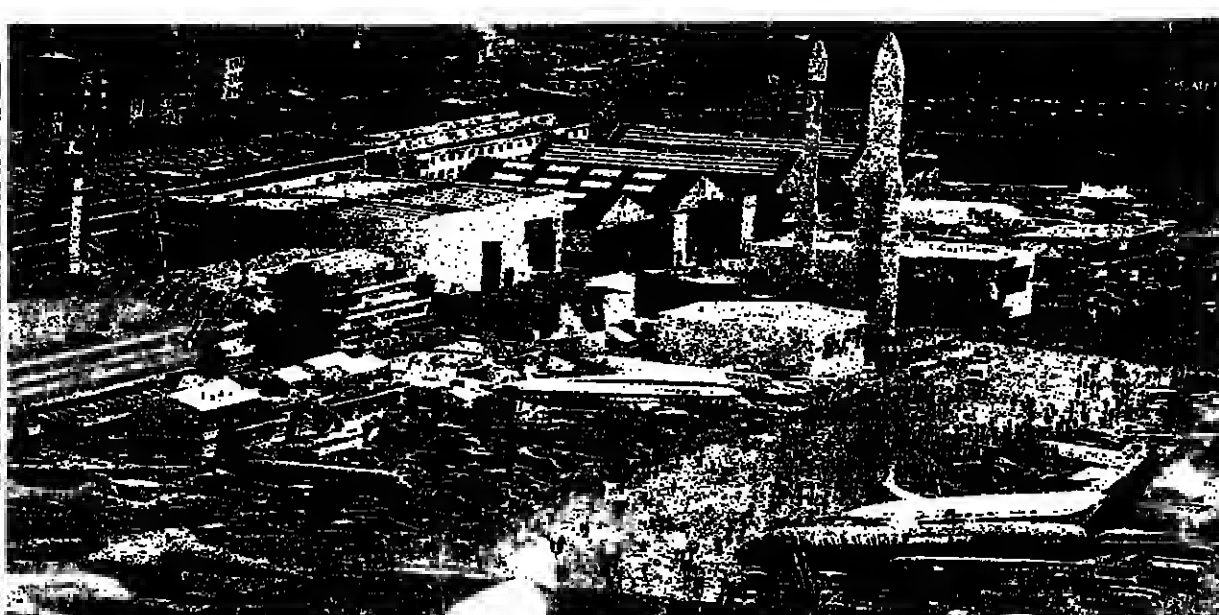
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Farnborough (left) and Paris, the world's premier international air shows: it is the scale of hospitality undertaken by the big companies and those keen to catch their eye which impresses the newcomer. Rivalry between the two shows is intense. *Keith Brown, Anson Picture Library Ltd*

SHOWS • by Ian Verchère

Expensive, but the shows must go on

Manufacturers grudgingly acknowledge that they remain indispensable

When the US aerospace giant McDonnell Douglas dropped out of the Paris Air Show in 1993, the company saved appreciably on what it felt had become an over-expensive exercise in winning new business.

What they hadn't quite appreciated, though, was the negative message their absence sent to one of the world's most intensely competitive and price-sensitive industries.

Far from being seen as prudent housekeeping during lean times, speculation was rife that one of avia-

tion's more august names was in trouble and could no longer afford to make its presence felt at an important industry gathering.

Such actions are not new. During the fat years of big defence contracts and limitless air traffic growth, aerospace manufacturers and their legions of suppliers habitually rolled out the red carpet at the Paris and Farnborough air shows on an indulgent scale. In the lean years that followed the collapse of the Soviet Union and the onset of industrial downsizing, however, tight balance sheets and even tighter marketing budgets have dictated a more prudent and analytical approach to the complex task of selling military hardware and commercial aircraft. In short, they asked, is it worth

the candle?

Most industry principals insist - some more grudgingly than others - that it is. But the whole air show culture which this vast, and increasingly international, industry has evolved since the end of the last war, has come under close scrutiny. Like few other industry gatherings, it is the scale of hospitality undertaken by the big companies and those keen to catch their eye which impresses the newcomer. For not only do they host non-stop bar and restaurant operations throughout these typically week-long events, but they also commit huge amounts to flying displays, static exhibits and downtown entertaining.

Among US and European manufacturers, where restructuring and consoli-

dation have been most marked in the 1990s, there is a grudging acknowledgment that events like Paris and Farnborough - the world's two premier international air shows - and regional shows at Dubai and Singapore are indispensable gatherings at which new contacts are made, old ones renewed and existing relationships reinforced. "It would be very surprising indeed," says Peter Taylor, the Society of British Aerospace Companies' exhibitions and events director, "if these firms didn't want to show off their products to peers and would-be customers."

As organisers of the Farnborough show the SBAC is not only providing a shop window for the UK aerospace industry but also for many other exhibitors eager

to present their wares.

Similarly, this year's Paris air show - which alternates with Farnborough - will be an unrivalled opportunity for world markets to observe what the French industry has to offer as well as get an update on the progress made in consolidating France's two critical arms - family-run Dassault Aviation and state-owned Aerospatiale - into a more efficient whole.

Rivalry between the two shows is intense. As the fortunes of the British and French aerospace industries have waxed and waned over the years, so, too, have views on which is the better of the two events. While Gifas - the French industry association - has undoubtedly invested more in giving its Paris Le Bourget venue a better infrastructure, Farn-

borough still wins many votes for its setting if not for its lacklustre management. The SBAC, however, has been galvanised into a major overhaul of exhibitors, facilities and attitudes since the floor of the press chalet collapsed at last year's Airbus press conference.

The Singapore and Dubai shows have also become essential events for many of the world's top manufacturers eager to tap the burgeoning aircraft and defence markets of the two regions. As more intimate gatherings, they are already setting new standards of comfort and efficiency that have not passed unnoticed in Paris and Farnborough. While they are described as regional shows, Singapore is seen by many as an event - like the huge Asia-Pacific

market it serves - with the potential to overhaul the main European shows in time.

As more developing nations seek a foothold in the aerospace sector, there has been an accompanying proliferation of smaller air shows. Here again, say manufacturers, the need to attend is being driven by competitive forces. "Over the past two-year cycle alone," explains Mr Taylor, "the SBAC has taken a UK pavilion at 100 per cent more exhibitions than previously." What this means, he adds, is that the marketing budgets of member firms are being stretched as they struggle to maintain a presence and win new business in emerging markets.

While some host nations of recently established shows

are buyers of such equipment, others seek a manufacturing role. For example, air shows in South Africa, India and Indonesia are all sponsored by governments eager to find a bigger manufacturing role for local firms in what they see as "cutting edge technologies". The cost of exhibiting at these events is also not always cheap.

In at least one Asian venue, the combined cost of a hospitality chalet, exhibition space and hotel rooms can be up to three times greater than that at Farnborough. "So we're now in a situation," says Taylor, "where there are many more players attending many more air shows in an industry increasingly organised into many more international partnerships."



Robert Crandall: "American can replace its existing fleet with great flexibility and at competitive prices"

AIRCRAFT ORDERS • by Michael Skapinker

Exclusive deals

Boeing has agreed 20-year sole supplier contracts with two US airlines

Mr Karel Van Miert, the European Union's competition commissioner, calls them "out of the question". Boeing, the US aircraft manufacturer, says they are none of Mr Van Miert's business. Airbus Industrie, the European manufacturer, says they are not in the interests of airlines or consumers.

The source of this discord are exclusive airline deals - the growing trend by airlines to appoint Boeing as their exclusive aircraft supplier for 20 years. Two US carriers - American Airlines and Delta Air Lines - have both selected Boeing as their sole aircraft supplier for the next two decades.

Other airlines, such as Continental of the US, are interested in reaching similar agreements with Boeing. Mr Gerald Greenwald, chairman of United Airlines, said last month that his airline might also consider concluding an exclusive deal with Boeing. He said: "We're looking at what the others have done. We're having some discussions but we haven't reached any conclusions."

To the airlines, the agreements provide price discounts and uniform fleets, enabling them to save money on spares, maintenance and pilot training. Boeing says that all exclusive deals so far have been with US companies only and are therefore outside the jurisdiction of the commission. To Mr Van Miert, however, the deals unfairly prevent Airbus from supplying aircraft to two of the world's biggest airlines.

The agreements mark a departure from the way in which airlines have traditionally placed their orders.

In the past, airlines asked the manufacturers - Boeing, Airbus and, occasionally, McDonnell Douglas - to bid for aircraft orders. After encouraging a price-cutting battle between the manufacturers, airlines would place an order and then repeat the same process the next time they needed aircraft.

In 1990, United Airlines of the US, invited all three manufacturers to its home city of Chicago at the same time and asked them to submit their aircraft bids in a marathon session lasting over 70 hours - a process which led to the carrier becoming the launch customer for Boeing's twin-engine 777 aircraft.

By concluding exclusive 20-year deals with Boeing, the airlines have surrendered the ability to pit suppliers against one another at regular intervals. Instead they have a long-term guarantee of lower prices.

American was the first airline to announce that it would buy its aircraft from Boeing only. Announcing the deal in November, Mr Robert Crandall, American's chairman, said: "Our new partnership with Boeing is a completely new way of doing business. It gives American a unique way to replace its existing fleet with great flexibility and at fully competitive prices."

American's order was large. It consisted of firm orders for 108 aircraft with list prices totalling \$6.5bn - although American is certain to have obtained substantial discounts in return for making Boeing sole supplier. In addition, American acquired "purchase rights" for an additional 527 jets over the next 20 years. These differ from the traditional options on aircraft. Options usually have to be exercised two to three years before the aircraft is delivered. With its purchase rights, however, American will be able to

place its additional orders as little as 15 months before it needs narrow-bodied aircraft and 18 months before it needs wide-bodied ones.

American made its order conditional on its pilots agreeing to a new labour contract. This proved difficult to achieve, with the pilots briefly going on strike before being ordered back to work by President Bill Clinton. Last month, the pilots and the airline finally reached an agreement, allowing American to renegotiate the timetable for Boeing's deliveries to start.

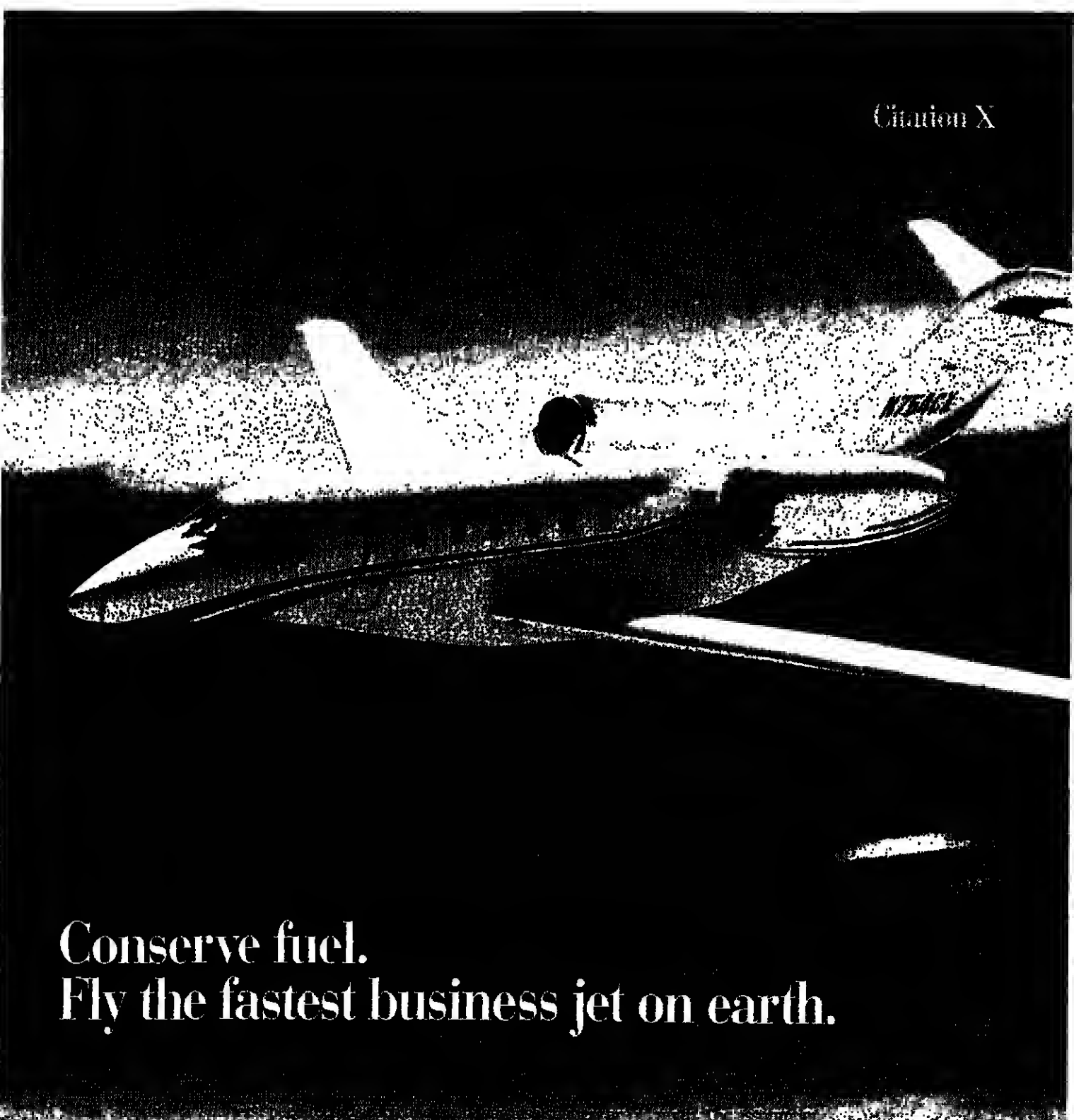
Delta's 20-year exclusive deal with Boeing, announced in March, was for up to 644 aircraft. Of these, 106 were firm orders, with a total list price of \$6.7bn. Delta took options on another 124 aircraft and rolling options on a further 414. A rolling option is the right to place further orders when an option is exercised or expires.

Airbus argues that airlines take substantial risks when they conclude exclusive deals for such a long period. What happens, the European consortium says, if Airbus achieves a significant advance in technology which Boeing fails to emulate?

A greater worry for the industry as a whole is whether the exclusive deals will turn Boeing into a monopoly supplier. Boeing is due to take over McDonnell Douglas and will then control about two-thirds of the world's civil aircraft market. Airbus will be Boeing's only competitor.

If when the exclusive deals expire, Airbus is no longer around to provide competition, the airlines are unlikely to be able to obtain the keen prices from Boeing that are available today.

Supporters of Mr Van Miert say this is why he is right to interfere. But United's Mr Greenwald says: "Exclusive supplier arrangements are not limited to the airline industry."



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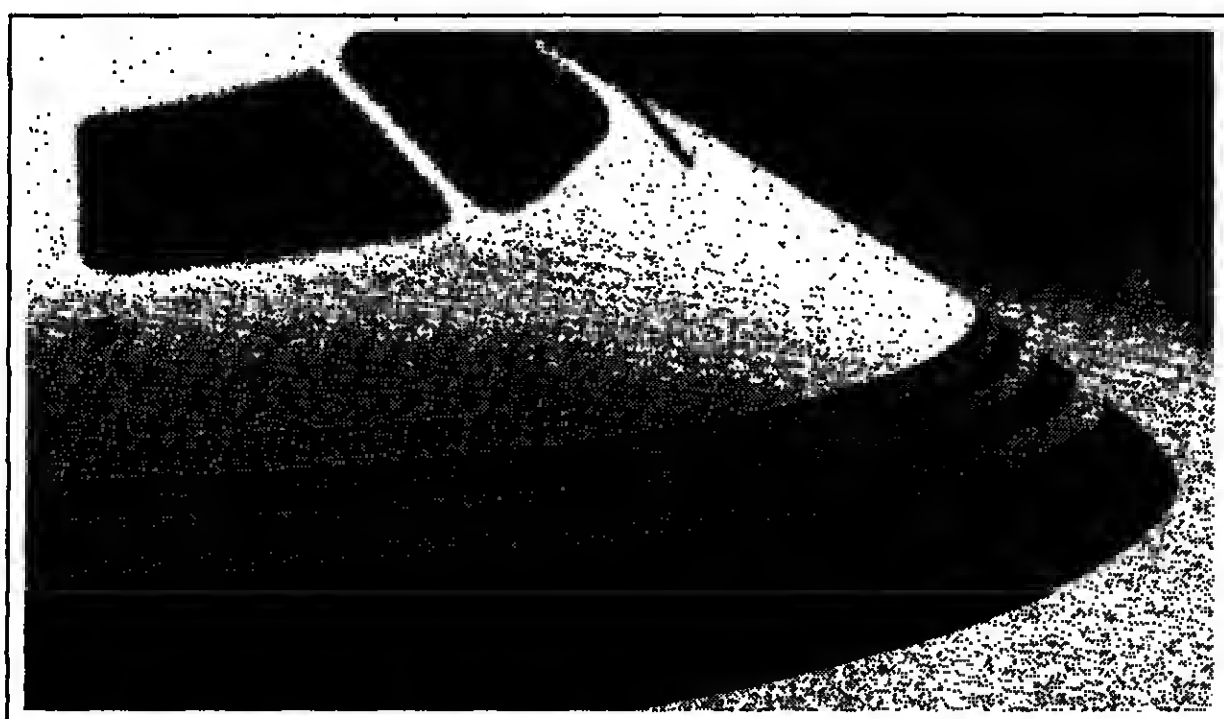
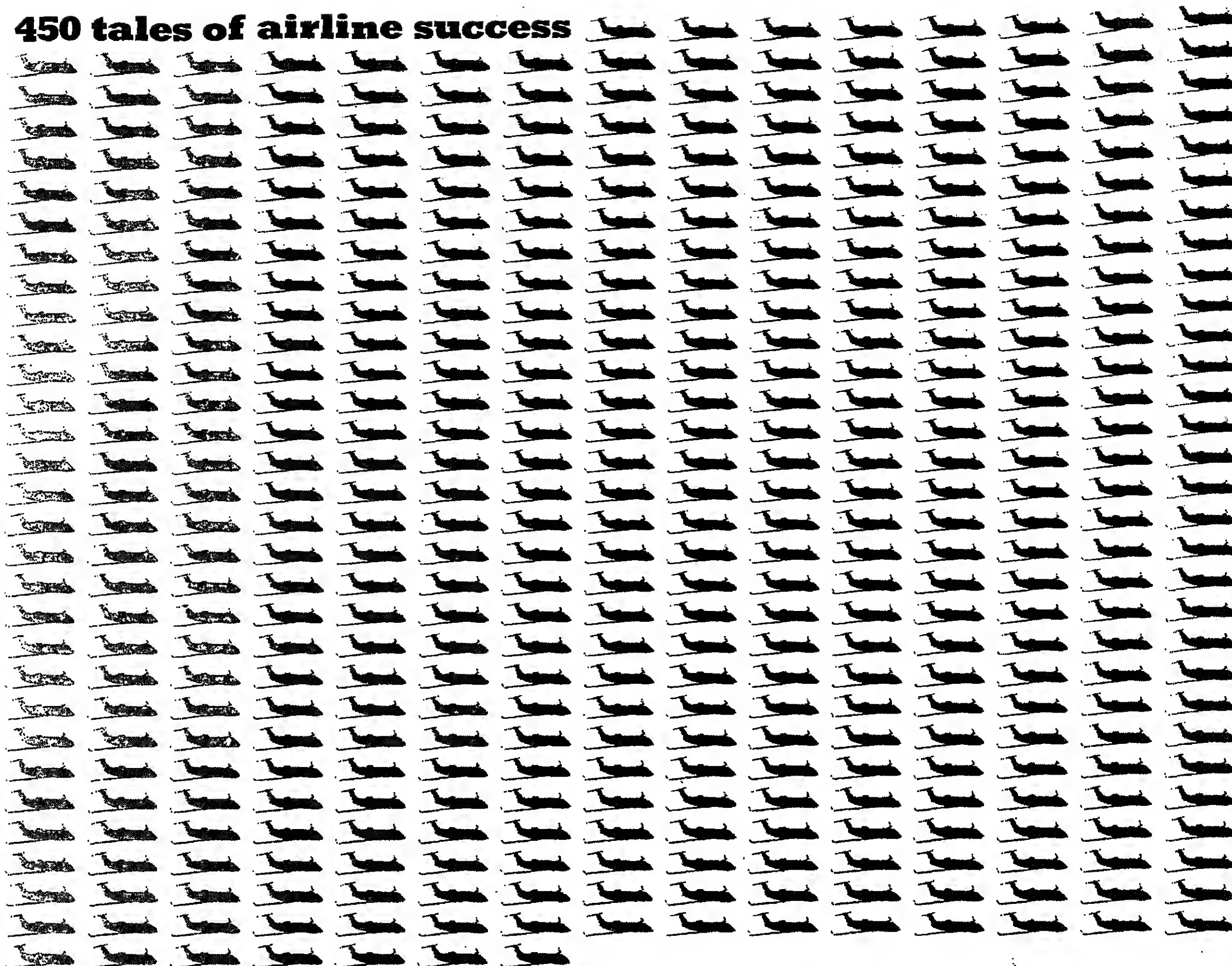
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CANADAIR REGIONAL JET



ARIANESPACE • by David Owen

Launching a defence

Ariane 5 is crucial, but costs must be cut in the face of stiff competition

It may safely be said that these are times of transition for Arianespace, the France-based 53-company consortium that is the world's biggest commercial satellite organisation.

On July 1, it will welcome a new chairman, Mr Jean-Marie Luton, director-general of the European Space Agency, who will take up the reins on the retirement of Mr Charles Bigot, who reaches the age of 65 this year.

Less than three months later, all being well, the new Ariane 5 rocket will make its second flight from ESA's launch centre at Kourou in French Guiana. The tension in the run-up to this second mission promises to be intense: the rocket's maiden flight on June 4, 1996 ended in disaster when it exploded after just 40 seconds as a result of a computer software failure.

Finally, a new Socialist government was recently elected in France which may have different priorities from its centre-right predecessor.

The previous government was considering restructuring Arianespace to make it more commercial, in plans that were thought likely to include reducing the 32 per cent stake in the consortium held by the French space agency.

Mr François Fillon, then space minister, said in April the aim was to "build a structure that was more market-oriented, more economic, more industrial, less public". Whether the new government will consider such changes desirable remains to be seen.

At present, French companies own 55.5 per cent of Arianespace. German companies, including Daimler-Benz Aerospace, account for 18.6 per cent and Italian groups 8.1 per cent. Belgian companies own 4 per cent and UK organisations 3 per cent.

The old centre-right government's concerns about how the proposed restructuring was handled were thought to underlie its preference for Mr Luton, whose appointment followed an argument with European aerospace executives.

The battle began in March when Mr Francis Avanzi, who had been expected to succeed Mr Bigot as chairman, was summoned by Mr Fillon and told he was no longer the man for the job. The government was said to regard Mr Avanzi's management style as too confrontational. But its move was strongly opposed by European space executives who said Mr Avanzi had demonstrated his managerial skills since becoming chief operating officer of Arianespace last year.

Mr Avanzi, a former head of CFM, the joint venture between General Electric of the US and Snecma of France, is not now expected to stay with the consortium. His probable departure could be a serious blow at a time when Arianespace, which has in recent years taken a more than 50 per cent share of the world's commercial satellite-launching market, faces increasing competition not only from US rivals such as Boeing and Lockheed Martin, but also from Russia, China and Japan.

Ariane 5 is particularly important in the context of this increasingly challenging market since it offers the capacity to carry heavier payloads - a vital consideration as satellites become larger and more complex. When it eventually enters commercial service, it should be capable of launching two satellites with a combined mass of 5.9 tonnes (or one satellite weighing 6.8 tonnes) into geostationary orbit 22,000 miles above the equator.

This capacity is crucial if the group is to continue launching two satellites at a time. Ariane 4, the rocket on which the consortium's success in recent years has been founded, is simply no longer big enough. Arianespace nevertheless successfully launched 15 satellites aboard

10 Ariane 4 rockets in 1996.

Early this year, it emerged that the consortium had embarked on a drive to reduce costs in the face of this mounting competition by trying to reduce the time needed to prepare each Ariane rocket. It said at the time it was finding that a number of rivals were prepared to offer "very, very competitive prices" in a bid to penetrate the market. "Competition is more and more severe", it said. "We have to defend our position as leader."

Mr Roger Solari, operations director for French Guiana, described cost-cutting as "a major, vital objective". "We must reduce the costs of manufacturing and launching our rockets," he said. He predicted that link-ups among US companies would lead to "the lowering of space transport costs". "We have to deal with two new giants in the space transport world. This is the association of Lockheed Martin and the association of Boeing McDonnell Douglas Rockwell. These are two market giants that have come on to the market with considerable products," he said.

Mr Luton's principal early priority will be ensuring the second Ariane 5 launch goes smoothly. Thereafter, he will need to turn his attentions quickly to protecting the consortium's hard-won market leadership. It will be no easy task.

ASIA • by Michael Donne

Risks shared for future rewards

Collaborative ventures with the West are seen as the region's best way forward

The medium to long-term outlook for the Asian aerospace industry is now better than it has been for some time past. This is largely as a result of the emergence of both actual and potential collaborative programmes with Western aerospace manufacturers, both military and civil.

Over much of the period since the end of the second world war, the Asian aerospace industry was either non-existent or, for political, technological and financial reasons in various countries, tied to Western manufacturers. These companies, particularly from the US and the UK, found willing and reasonably priced production skills readily available.

While efforts were made for some indigenous aircraft development, notably in Japan, such products as emerged were never really significantly successful because of lack of develop-

ment capital and the dominance of Western exports in Asian markets.

Japanese production skills were harnessed to the production of Western military aircraft and helicopters under licence, to build airframe parts for a succession of Western-built airliners, and to a collaboration with Rolls-Royce of the UK in the production of aero-engine components.

China was for many years tied to the former Soviet Union and, although with Soviet assistance it eventually developed a significant aerospace design, development and production capability of its own especially in military aircraft (and also undertook extensive subcontract work on a wide variety of Western-designed civil aircraft and engines, including the Rolls-Royce Spey), for political reasons it failed to exploit the possibilities of winning extensive foreign markets.

All this is now changing. There are four main factors for this. One is the widespread and growing recognition that advanced technology (which it is generally accepted is acquirable most

speedily through aerospace and associated activities such as avionics) is a key to much of the future economic development in several of the major countries in the region - China, Indonesia, Japan, South Korea and Singapore.

Second, political tensions have led many countries not only to bolster their military aircraft procurement from the West (a trend which continues to this day) but also to consider the possibilities of joint ventures or some other kind of participation in Western military aircraft programmes.

The third factor is the rapid growth of commercial air links with the West and within the region itself. The International Air Transport Association, representing most of the world's major airlines, has estimated that by about 1999, Asia-Pacific will represent just over 37 per cent of the world's total international scheduled flights, climbing to more than 50 per cent in the following decade.

This prospect has generated a rising demand for commercial aircraft, initially Western-built. But there is a

keen desire to move onto risk-sharing production participation with the West or eventual wholly indigenous development if possible, although that remains a long-term vision.

The fourth is the comparatively recent emergence of China as a determined aerospace player in the region, which has concentrated minds elsewhere in Asia-Pacific.

One illustration of the rising tide of interest in aerospace is seen in the growing number of international air shows in the region. Apart from Japan and Singapore, which have had regular aerospace exhibitions for years, there are now several others - China, Indonesia, Malaysia and South Korea, for example - indicating recognition of the benefits such shows provide as a means of demonstrating the host countries' market desires and whatever indigenous capabilities they may have.

It is recognised throughout the area, including China, that it is not yet possible either technologically or financially for any one Asia-Pacific country or group of

countries to develop new types of large advanced aircraft such as Jumbo jets or other long-range, high-capacity aircraft. However, the extensive subcontract or risk-sharing manufacture of parts for such aircraft continues.

But the smaller, "regional type" of twin-engine short-to-medium range airliners can offer a reasonably speedy entry into the indigenous manufacturing field. Several projects are now being lined up, notably the A321X family of 100-seater airliners in China through collaboration involving Aviation Industries of China (AVIC), Airbus Industrie and Alenia of Europe and Singapore Technologies.

The Indonesian IPTN (Industri Pesawat Terbang Nusantara) N-2130 is now also planned as a family of jetliners variously seating between 104 and 132 passengers.

For its own part, South Korea is studying a broad range of civil and military aerospace projects on either an indigenous or collaborative basis, covering commercial passenger aircraft, light combat jets and trainers,

and helicopters. Korean Air's aerospace division, Daewoo Heavy Industries, Samsung, and Hyundai are interested parties. Western companies interested include the UK-French-Italian consortium Aero International (Regional) and Saab of Sweden.

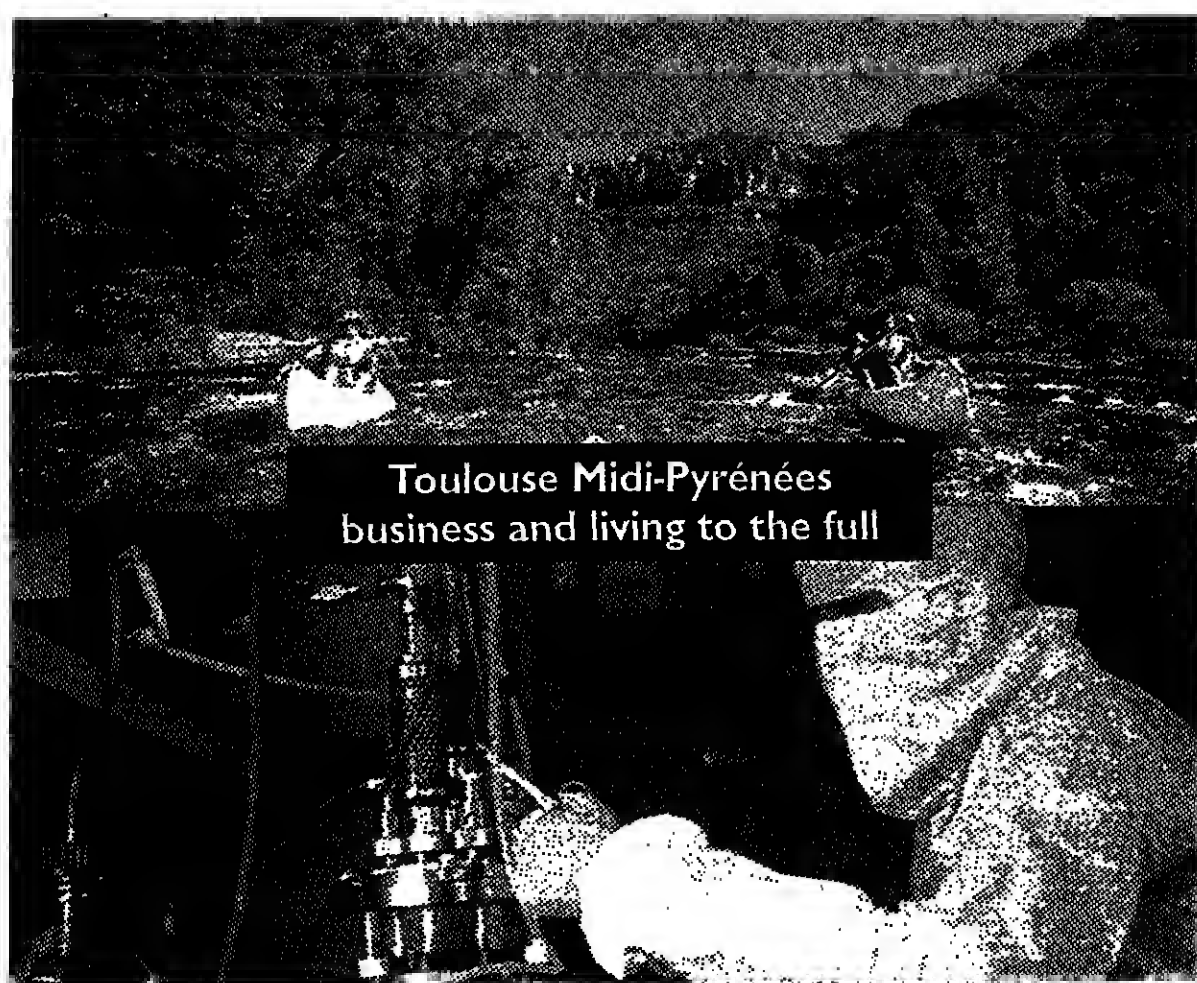
In military aircraft, Lockheed-Martin of the US is interested in a joint venture advanced trainer/light combat aircraft. The problem with all of the many projects now being mooted, however, is not just the technology transfer involved (which some in the West see as possibly counter-productive in the long-term) but also money.

Many of the Asia-Pacific countries interested do not perhaps recognise the substantial sums that all aerospace ventures involve, and find the facts daunting when faced with them.

But Western companies must recognise that big outlays and extensive technology transfers will be essential if they expect to win a share of what will almost certainly be in the next century one of the world's biggest aerospace markets.



Former space minister François Fillon (right) backed Jean-Marie Luton (left) to take over from Charles Bigot as Arianespace chairman



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US DEFENCE INDUSTRY • by Bernard Gray

Giants waking to reality

US companies are competing much more aggressively for exports around the globe

The end game is in sight in the current round of rationalisation in the US defence industry. With quiet rumblings from the Pentagon indicating that consolidation has gone about as far as the government would like to see, the shape of the winning teams is beginning to emerge.

While formal approval has yet to be received, the merger of Boeing and McDonnell Douglas is unlikely to face significant regulatory hurdles in the US, given the Pentagon's desire to see the deal completed. Nor is vocal European opposition likely to hold up the merger, although some face-saving concessions may be offered to the European Commission.

The completion of the Boeing deal will create a commercial aerospace giant, and a rival to Lockheed Martin in the defence field. These two companies are likely to share production of all future large military aircraft platforms, and may move further into the increasingly complex field of naval and land systems, as the example of studies on a heavily armed "arsenal ship" indicate.

Both companies work on the F-22 stealth fighter for the US Air Force, with Lockheed in the lead, and the new McDonnell-Boeing team will make the F/A-18 E/F for the US Navy into the next century.

The other large programme which could shape any future consolidation of aircraft makers, the \$100bn Joint Strike Fighter, is being fought out between the two companies. As McDonnell's rush into Boeing's arms in the wake of its elimination from the JSF programme last year showed, it is a com-

petition which neither of the remaining teams can afford to lose.

The third emerging giant in defence will not be an airframe platform manufacturer in the same way as Lockheed and Boeing, but shifts in Pentagon philosophy may help the new grouping compete on equal terms.

Provided regulatory approval is forthcoming, Raytheon will bring together the missile capability of Hughes' and TTE's defence businesses to add to its own existing expertise. It will also have a range of electronic system capabilities to add to its specialities in precision weapons.

This range of activities may benefit if the revolution in military affairs advocated by the retired vice-chairman of the joint chiefs, Admiral William Owens, finally catches on. Admiral Owens sees the coalescence of sophisticated surveillance, high-speed command and control computers and precision guided weapons producing a "digital battlefield." In this kind of information war, the US could map the location of all possible targets, communicate decisions on action to the appropriate commanders and deliver weapons on to their targets.

No one is yet sure how far this vision will translate into reality, but it will play to some of Raytheon's strengths, helping to neutralise some of the traditional advantages held by the aircraft platform makers. Lockheed is also very interested in this area, and Boeing would be bound to take a hand if the Pentagon started to spend substantial sums to turn the Star Wars image into hard programmes.

The fourth large US defence contractor, Northrop Grumman, could also benefit from any shift to information warfare. However, with the Pentagon's seemingly final decision not to buy any more of its B-2 radar-avoiding stealth bombers, the



Cockpit of F-22 superiority fighter

question marks over whether Northrop is big enough to remain an independent competitor will intensify.

Northrop's skills in stealth and electronic warfare are well regarded by the Department of Defense, and would be a good acquisition for either Boeing or Raytheon, both of which lack stealth experience.

However, Boeing may be ruled out on the grounds of its scale, leaving the possibility that some kind of rapprochement between Raytheon and Northrop is likely.

The shape of the companies likely to dominate the US defence scene may be reasonably clear, but there is likely to be a shaking-out process as outposts of the

new empires which do not fit well are divested. Other parts are equally likely to be sold because of Pentagon concerns about excessive concentrations of power in specific areas.

The slowing in the pace of merger activity which will accompany a period of introspection may be a disappointment for New York investment bankers, but the industry probably feels the need for pause. A phase in which the recent deals are digested is necessary, as companies come together to form new cultures and their boards drive through the rationalisation benefits which are the justification of past deals.

Yet while the new structure will take some time to

settle down, it will not be long before US companies return to the offensive as larger and leaner competitors.

With the domestic market largely rationalised, and spending by the Pentagon likely to remain static, US attention will move increasingly to the international marketplace for new opportunities.

US companies are already competing much more aggressively for export opportunities around the globe, with the emerging markets of the Pacific Rim and central Europe being added to the traditional areas of Nato members and Middle Eastern states.

However, although competition is hotting up in these markets, the US approach is still largely based on traditional arms sales. It cannot be long, however, before US manufacturers, balked at home, seek deeper ties with their European rivals. Already companies such as British Aerospace and Daimler-Benz have had partnership links to the US on particular aircraft or technology demonstrators. Those links could be stronger in future.

If Europe fails to rationalise its defence industry to meet the challenge posed by the new US giants, then it will lack the scale or low cost base it needs to compete. Eventually, in a bid to survive, European companies may turn towards US counterparts for deep alliances which will give them a lifeline.

The US may see an opportunity to divide and rule the European defence industry by offering attractive production partnerships to companies, which will eventually force them into the role of sub-contractors to the US giants.

So far the US has not fully realised that it holds this market power, but if the Europeans continue to dither, that realisation will not be long in coming.

EUROPEAN DEFENCE INDUSTRY • by Bernard Gray



The Eurofighter will meet requirements of the four partner countries: UK, Germany, Italy and Spain

Hesitancy under attack

The UK, France and Germany need to act soon to protect their capabilities

"Hurry up and wait" might be the motto for the rationalisation of the European defence industry. Investment bank rain-makers, who have been predicting a flood of deals for several years, have given up waiting for the deluge. "People continue to tell me things are about to happen, but I've given up holding my breath," said one recently.

Industrialists seem almost as downcast about the rate of progress. In spite of repeated rounds of talks and punishing flight schedules which must make the airlines' mouths water, frustration at the lack of progress is beginning to tell, with cynicism replacing optimism as the predominant feeling.

There have been some small successes in bringing together particular sections of the industry - the Matra-Bae Dynamics joint venture in missiles being the shining recent example. But the birth pangs of that deal, three agonising years in the making, give some indication of the difficulty involved. The fact that it has not been followed by more substantial deals in spite of the announcement that McDonnell Douglas and Boeing intend to merge, underlines the point.

Behind the difficulty is the difference in attitude of the three European countries with very large defence manufacturing bases. Britain is in principle keen to rationalise as soon as possible, but having cut the cost of its own manufacturing base it is insisting that it will not pay for the cuts needed in France or Germany.

Germany accepts the need for rationalisation in principle, but has not yet braced itself for the political pain which would accompany large-scale job losses. While its industry is in private hands, most companies are subsidiaries of much bigger general engineering or electronics companies such as Daimler-Benz or Siemens. As a result, the boards of these giants have not necessarily focused as clearly on the need for rapid change and cost reduction as their British counterparts.

France's industry is still largely in state hands, fragmented into several groups, and is isolated from the rest of the European industry as a result of French decisions to go it alone on many big defence programmes. As a result, it is keen to consolidate internally to improve its bargaining position before it enters European deals.

Both France and Germany are suspicious that the British are keen to strike deals now because the UK's lender industry is in a good position to negotiate while the

profitability of Continental companies is under pressure. In particular, French companies are keen to delay because civil orders are picking up, and the decline of the franc against the dollar will eventually give a boost to civil aircraft profitability. This process is leading to French foot-dragging over the incorporation of Airbus, and is also slowing down talks on military deals.

Philosophically, France and Germany would also like to see gentle rationalisation along the lines of cosy joint ventures which preserve the traditional Continental social consensus. Britain on the other hand, feels that more radical surgery is needed to respond to the emerging US gorillas.

All three countries are reluctant to give up the sovereignty which would be implied by a pooling of their defence industries, and have so far not been prepared to make many of the compromises over the operational capability of the weapons they want, which would make it easier to produce common programmes.

As a result, little progress has been made. British Aero-

Talks keep breaking down over the lack of a common view on the way forward

space and Daimler-Benz Aerospace have much in common, with the vast bulk of both companies' manufacturing likely to be on Airbus airliners or the Eurofighter combat jet in the early years of the next century. Yet talks between the two keep breaking down over personality differences and the lack of a common view on the way forward.

There are also murky suggestions that every time the two appear to edge closer, France, fearful of being marginalised, intervenes to prevent progress by reminding German politicians of where their natural alliances lie.

One other natural pole around which rationalisation could take place is a merger of Thomson-CSF of France and GEC-Marconi of the UK to form a European defence electronics giant. Yet France, apparently fearful of the financial power of Marconi's parent GEC, has shied away from the idea. And while Thomson has been slated for privatisation, a full-scale deal with GEC was ruled out, when its attempt to bid alone for Thomson was vetoed.

Neither of the two bids which were permitted for Thomson would have produced effective European rationalisation. The Lagardere Group's bid does involve Bae and Daimler-

Benz, but the structure proposed by Lagardere would cement in a French majority across Thomson's operations and restrict foreign companies to minority participation in limited parts of the business.

This would effectively Balkanise the electronics industry and would not allow the management of the rather unwieldy joint venture to rationalise the different business areas effectively. On the other hand, Alcatel's bid would not produce any rationalisation at all. And while it would potentially open the door to talks with GEC on pooling Thomson and Marconi, Alcatel seems more interested in talks with French aircraft makers Dassault and Aerospatiale, with the possibility of creating a French national defence champion.

Even Airbus, the other hope for rationalising the aerospace sector, is slowing rather than speeding the plough. Aerospatiale, which would see the bulk of its operations transferred to Airbus if it became a single company, is dragging its heels. Yet the formation of a joint company to Airbus would bring the aerospace manufacturers together and might help in pooling defence assets.

All of this manoeuvring for position may seem to be in the interests of each individual party, but it means that the European industry as a whole is sleep-walking towards a position where highly competitive US giants can squeeze the Europeans out of export markets and increasingly threaten the manufacturers at home.


Under those circumstances, the private sector companies in a position to act may seek their salvation elsewhere. Bae and GEC could team up after their long co-again-off-again relationship. Either or both could seek transatlantic deals which would make them junior partners but would ensure survival.

Germany, never enthusiastic about the defence business, might be tempted to sell out. Siemens is already looking for a buyer for its military business, and there are long-standing tensions in Daimler-Benz Aerospace's relationship with its parent car maker which might eventually lead to a parting.

Under those circumstances France, which seems keen to hang on to self-sufficient ways, might be tempted to go it alone. But it would only be a matter of time before its industry was marginalised.

Such a series of outcomes would clearly not be in the best interests of the European industry, yet the barriers to successful rationalisation, and the current complacency of many involved, mean that sensible decisions are in danger of being missed.

If Europe wishes to avoid being divided and ruled, it had better act now.



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MILITARY AIRLIFT • by Bernard Gray

Fight to get off the ground

The need for transporters increases but decisions seem painfully slow

Sometimes the world of military airlift seems to move as slowly as the aircraft themselves.

While the apparent need for airlift seems to increase almost daily - as Nato forces move towards rapid reaction and away from large-scale confrontation in well-defined locations - decisions on which air transporters to procure seem painfully slow.

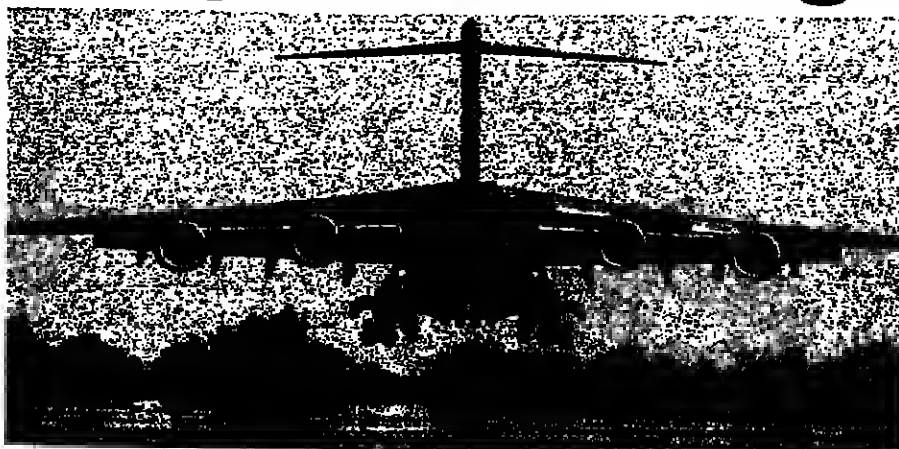
McDonnell Douglas's C-17 passed its biggest hurdle 18 months ago when the Pentagon decided that the performance and value for money of the aircraft had improved sufficiently for the US Air Force to complete its fleet of 120 aircraft.

The decision to buy 80 aircraft, worth \$18bn to the company over seven years, must have come as a great relief to Douglas employees at Long Beach, California, and to McDonnell executives in St Louis.

Even so, the sheer cost of the aircraft has made it difficult to turn it into an export prospect. Overseas customers are said to have been offered the aircraft at about \$200m each, which is expensive even for traditional purchasers of sophisticated Pentagon equipment, such as Japan. Nato's European wing has not seen fit to stump up for the strategic lift capability that the aircraft would offer. While there has been general interest in the aircraft, there have been no buyers.

For all that, the C-17 may be faring better than its competitors. Lockheed is having teething troubles with the latest manifestation of its workhorse, the C-130 Hercules. The new two-pilot, C-130J which features digital avionics, more powerful engines and propellers and other improvements, is in danger of upsetting one of its most ardent fans.

The Royal Air Force was



McDonnell Douglas C-17: USAF decision to buy 80 aircraft worth \$18bn has come as a great relief

prepared to back the C-130J, in spite of a fierce industrial fight with British Aerospace in 1994, because it needed aircraft quickly and felt that the proven pack-horse was a better bet than the European Future Large Aircraft. Unfortunately, Lockheed has rather let down its launch customer, and first deliveries of the aircraft will be at least a year after the scheduled November 1996 date.

The more powerful Allison engines and advanced Dowty propellers have created an unusual air flow over the wings in some low-speed conditions, which could cause the aircraft to stall. A correction is being introduced, but it is not ideal.

There have also been problems with new flat-panel displays for the cockpit, which have delayed completion of the avionics for the aircraft. Lockheed says it is confident that the problems will be resolved soon, but the company is likely to face penalty payments to the RAF of between £20m and £40m, because the air force will have to keep its old Hercules in service, with their higher maintenance costs and three-man crews.

Backers of the Future Large Aircraft are in no position to crow, however. In spite of moves to transfer development of the aircraft to Airbus at the Paris air show two years ago, little progress has been made on starting development work. The manufacturers backing the FLA recently failed to

win \$75m of pre-development funding they were looking for to flesh out some aspects of the design while they wait to see whether the aircraft will win formal backing from the governments of France, Germany, Britain and Italy.

In essence the problem is that military budgets are under pressure in all four countries, particularly in the approach to European economic and monetary union. France and Germany can wait to replace their airlift capability, and are tempted to delay the programme until the squeeze of Euro has passed.

Britain, and to some extent Italy, will have to make earlier decisions about their ageing fleets. Work on the FLA would have to start immediately to meet Britain's need to replace its second batch of 30 old Hercules from 2004.

With no money in government budgets, defence ministries keep trying to talk of commercial funding for the FLA. However, no one has managed to find a formula which commits governments firmly enough to buying the aircraft on terms acceptable to the manufacturers and which any banker would accept.

In part these problems are a function of the low priority accorded to airlift by the military. This essential, but unglamorous, role finds it difficult to win the battle for funding, even though military emphasis is shifting

towards rapid deployment. Trouble spots such as Zaire, Bosnia and Rwanda may underline the need for airlift, but they do not seem to make it easier to get aircraft.

The example of Britain underlines this point. The UK has command of the

Nato ACE rapid reaction corps. It has also set up a permanent joint headquarters and has brought airborne troops and marine commandos together in a rapid reaction force. The previous Conservative government was gradually edging the forces towards more mobile units which could be deployed globally - a move likely to be accelerated by the new administration.

Yet for all that, the UK is struggling on with its old Hercules fleet, has yet to receive any new C-130Js, cannot decide whether to lease half a dozen C-17s for strategic airlift, and has not formally committed itself to the FLA.

Perhaps the fact that airlift can be chartered on the international market or borrowed from the Pentagon is to blame. Whatever the reason, airlift remains a Cinderella service.

MISSILES • by Bernard Gray

Pentagon Sidewinder surprise

Recent developments have confounded expectations for this year

The year following the 1996 Farnborough air show was to have been the year of the two missile competitions. Instead it has turned into the year of the two missile companies.

Attention was focused on the prospect that the Pentagon would be buying a new short-range missile for the US Navy to replace its venerable Sidewinder, at almost the same time that the British Ministry of Defence was to order a new long-range missile for the Eurofighter. Since Britain had a new short-range missile to offer, and the US had a long-range weapon it was keen to update, a deal seemed possible.

Life, however, is not like that. At the end of last year,

under pressure from a deeply conservative US Navy, the Pentagon plumped for an improved version of the existing Sidewinder. Hughes won the \$165m development contract with its Evolved Sidewinder bid in a victory which is likely to give it manufacturing business worth \$22m. British Aerospace, which had offered its Advanced Short-Range Air-to-Air Missile, was deeply disappointed.

The decision prompted Raytheon, which had been in talks to buy Hughes earlier in the year, to renew its interest in the company, which had been formally placed on the market by its owner, General Motors.

Raytheon eventually beat Northrop Grumman to the punch for the business, and if the deal gets regulatory approval it will have control over US short and medium-range air-to-air missiles, US ship anti-air missiles, Tomahawk land-attack missiles

and air-to-ground Joint Stand-Off Weapons. Raytheon would be so strong that the Pentagon, which does not oppose the deal in principle, might force it to divest some of its business to maintain competition in the US missile market.

In Europe, as usual, things are less clear cut. The British MoD, faced with rival bids for its £500m Eurofighter missile competition from a European team led by Matra BAe Dynamics, the joint venture successor to BAe in missiles, and the British end of the US giant Hughes, did not make a decision. Instead it opted to give both teams £5m to reduce the risks in their bids, and delayed a decision for 12 months.

Interpretation of the MoD's action is varied. The MoD says that the decision was made purely because there was too much uncertainty about the technical proposals offered. In essence, the MoD wants a missile

capable of manoeuvring at long ranges, to give the Eurofighter a greater chance of victory in any fight. To do this both teams proposed adding a ram-jet to a conventional missile, a technology which has been tried before, but not on a missile as small as those proposed. It is this the MoD wants investigated.

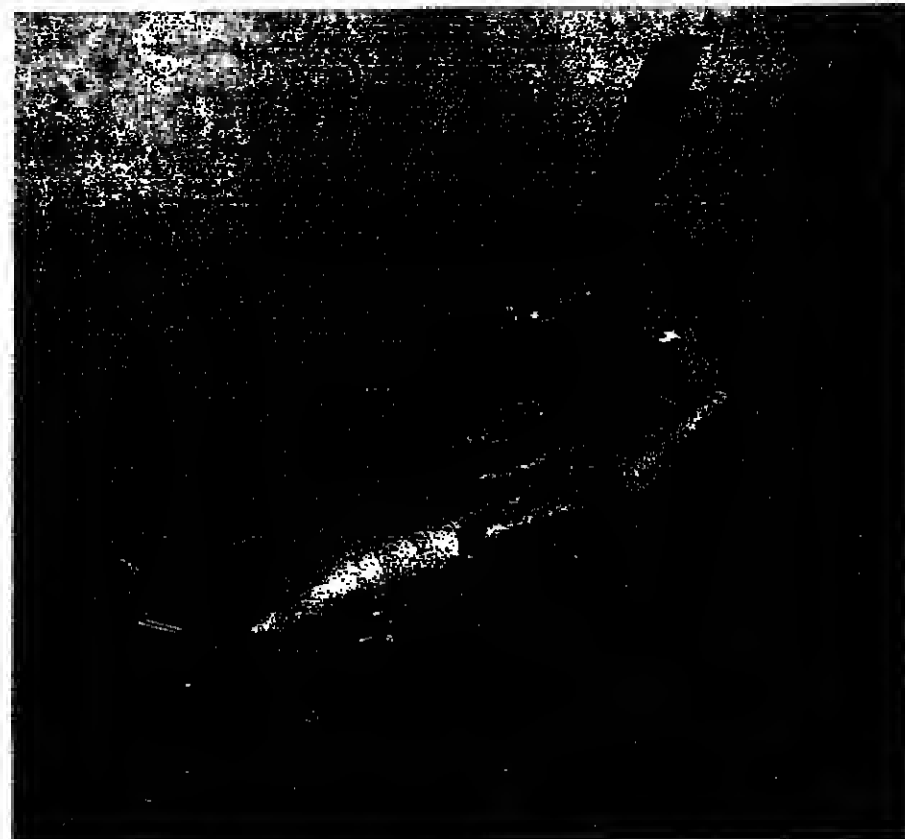
Yet there is a suspicion that delay favours the European team. Hughes' offer is based on its existing Advanced Medium Range Air-to-Air Missile, while the European offer needs to be developed. This puts Matra BAe at a cost disadvantage unless another Eurofighter nation also wants to procure the missile and contribute to development funding.

Germany would be a natural partner, but its budget problems mean that it is unwilling to sign up now. The delay gives Matra BAe longer to sign the Germans up. In this context, rival bidding for the French defence electronics group Thom-

son-CSF provides an interesting straw in the wind. Lagardere Group, the parent of the French half of Matra BAe, is bidding and has recruited LFK, the missile subsidiary of Daimler-Benz Aerospace, to its team.

Matra BAe is also to take a minority stake in LFK, in a move which confirms that there is likely to be only one significant missile house in Europe, based around Matra BAe Dynamics. This will be particularly true if Lagardere wins Thomson, when efforts to form a second missile business around a combination of Aerospatiale, Thomson and LFK will have been undermined.

Even if Lagardere does not win Thomson, it seems unlikely that a second missile house will emerge in Europe. It will then be interesting to see which of the two new emerging power houses can consolidate its position, cut its costs and start winning international business most quickly.



Lockheed C-130J: first deliveries of latest manifestation to RAF will be at least a year late

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JSF • by Bernard Gray

A world standard fighter takes shape

The project is likely to get more funds and be in service sooner than expected

The Joint Strike Fighter is at first blush one of the winners in the Pentagon's recent defence review. There were fears that the combined \$350bn cost of Lockheed's F-22 stealth fighter, McDonnell's F-18 E/F US Navy strike fighter and the Joint Strike Fighter could break the Pentagon's budget and lead to cancellation. But all three survived - and the JSF took the smallest relative cut.

Far from crashing and burning, the project has gained ground on its competitors.

The 3,000 aircraft programme is intended to provide the US Air Force with a replacement for its single-engine fighter F-16, the US Navy with a "first day of the war" stealth strike fighter to replace its Grumman F-14s and early F-18s, and the US Marines with a supersonic replacement for the vertical take-off and landing McDonnell AV-8B Harriers.

Neither Boeing nor Lockheed, which are competing to provide the design for the JSF, will lose sleep over about 100 aircraft being cut from the number provisionally allocated to the US Air Force. They are likely to focus instead on the fact that the Pentagon has ordered the Navy to cease production of the F/A-18 E/F from 2008, if the JSF is ready to replace it.

The US Navy has been



Boeing's JSF, shown in Royal Navy markings, has built on the strengths of the Harrier's lift system



US Marine Corps variant of Lockheed Martin's JSF concept

very reluctant to apply the principles of radar-avoiding stealth technology to its aircraft. That may be in part because of the difficult environment and dangers involved in operating fast jets from aircraft carriers. But the natural conservatism of the service, and the fact that the idea was invented by the Air Force, have also played a part.

Now, however, the Pentagon's decision seems to imply that it will insist that the Navy embraces stealth and abandons its old ways. The Revolution in Military Affairs being proposed by

some US thinkers, under which America would make full use of all of its technologies to dominate any battle space at minimal risk, is in part behind the move.

Whatever the reason, the push is likely to mean that JSF gets more funding for earlier development, and is likely to be in service sooner, than earlier predictions suggested.

With the aircraft having the benefit of a huge home market production run, strong export sales are likely, and the JSF could become the world standard fighter in the first quarter of the next century.

The prospect of \$100bn of sales in the US and as much again abroad is a mouth-watering prospect for manufacturers. The programme is so important that the loss of the deal would be a near-fatal blow. The aircraft is so important that elimination from the competition last autumn was sufficient to force McDonnell Douglas to sue for terms with Boeing. McDonnell has suffered a number of other blows, but the loss of its place in the JSF programme made its position in the fighter business untenable.

So critical has the programme become that ana-

lysts are starting to say that JSF is too important for either of the remaining competitors to lose. As a result, many say that the Pentagon will ensure that whether Boeing or Lockheed's design is successful in the 2001 run-off, both manufacturers will be included in the final contract.

Before that, however, the programme has to survive as a single entity. There are strains involved in trying to reconcile all the competing requirements in one aircraft.

While the manufacturers say that the compromise needed are small, and the commonality is great, the

two very different design approaches tell a different story.

Lockheed's design has the look of an F-22 remade for the mass market. Its looks, its parentage, its low cost and low risk will clearly appeal to the Air Force as it tries to extend stealth to all its fighters. However, Lockheed's approach to solving the problem of short-take off and vertical landing may find less favour with those who have to fly under combat conditions.

Boeing has built on the existing strengths of the Harrier's lift system, and has an aircraft which looks like

something designed to appeal to the Marines as a heavy machine capable of bringing large bomb loads to attack the beach. Its looks, however, are unlikely to appeal to Air Force generals used to pencil-sharp darts.

Given that the Navy is not that keen on the aircraft anyway, the programme may split into a Marine and Air Force variants which are very different. This would trace back to the roots of the programme, where Congress artificially crunched efforts to produce two very different aircraft into one programme. This makes life difficult both for the US manufactur-

ers, and for foreign companies keen to join the programme. In particular British Aerospace is in a deep bind over which team to join. A decision has been held up for almost six months.

The British Ministry of Defence has put \$200m into the JSF programme in the hope that it will produce an aircraft capable of replacing the Sea Harrier on any future aircraft carrier. Now that BAE's original partner has been eliminated, it must choose one of the new teams.

Choosing Boeing might seem more sensible, because its design is more likely to produce the aircraft the Royal Navy wants, based on ideas originally fleshed out by BAE in the Harrier, and Boeing had offered BAE more interesting intellectual content on its programme.

But going with Boeing would be seen as highly disloyal by BAE's European partners to the Airbus civil airliner programme. If Airbus is to form a strategic link with any US manufacturer, it is more likely to be Lockheed than Boeing, and BAE could then find itself in the uncomfortable position of being part of the wrong partnership.

Lockheed has in any event improved its offer to reflect Boeing's proposal, and its aircraft would offer the prospect of a much longer production run of conventional take off aircraft for the world's air forces.

As Sir Richard Evans, BAE's chief executive, ponders these possibilities he must be reflecting that even great opportunities are not without their headaches.

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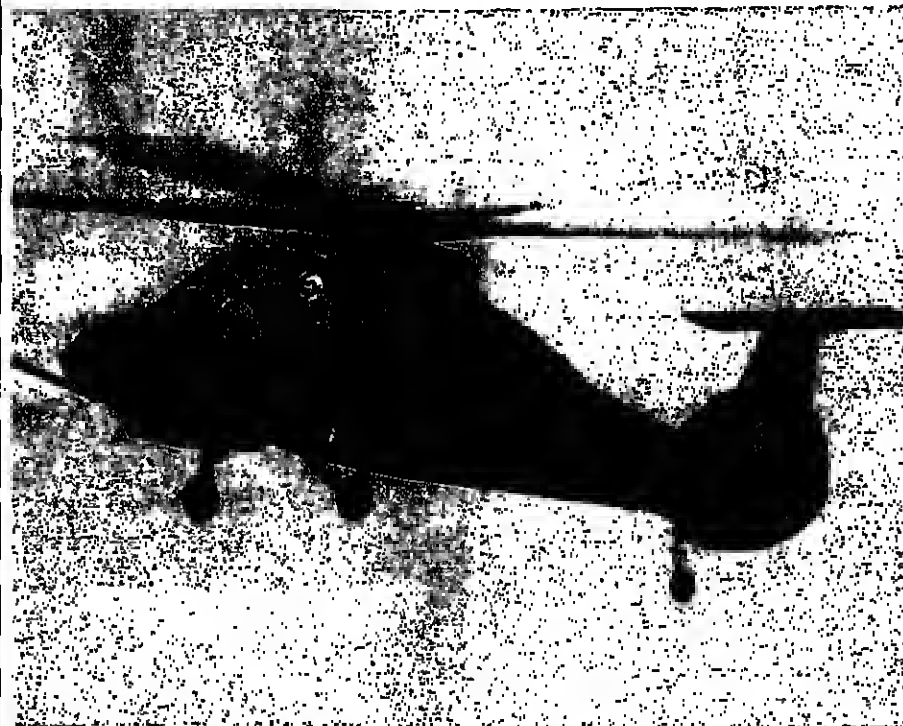
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HELICOPTERS • by Bernard Gray

A bespoke and expensive industry

High costs make it difficult to win orders from cash-strapped governments

After years of inactivity, it took the biggest merger in the aerospace sector to start the rationalisation of the much smaller helicopter industry. Only the merger of Boeing and McDonnell Douglas, it seems, was enough to produce real progress in an industry which seems stuck in the 1950s.

If the merger receives regulatory approval two of the four US helicopter manufacturers will at last be brought together. Boeing, which makes the Chinook medium transport helicopter and is a half-partner with Bell in the \$42bn V-22 Osprey tilt-rotor programme, will join McDonnell Douglas, maker of the AH-64 Apache tank-busting helicopter.

Whether this aspect of the merger will result in much short-term saving is, however, doubtful. Perhaps this is why the momentum for rationalisation has been lacking. Helicopter design and production are so idiosyncratic that the machines may always be bespoke and expensive.

There may be some small savings if production is concentrated at one Boeing site, however. There are almost certainly savings to be made in the support and maintenance of existing helicopter fleets, and in the marketing of new machines.

It will be in the design and production of new equip-

ment that real gains can be made. Boeing is working on the new RAH-66 Comanche scout and attack helicopter, and its team may learn from the experience of McDonnell engineers in updating the Apache to take the new Longbow radar system. Improvements may also be made in the Comanche design as a result of the Apache demonstrating the need for modular systems, so that helicopters can be more easily maintained in the field.

Provided the merger is handled sensibly, and the experience of both teams of engineers is brought to bear, Boeing could be a winner in this sector of the market.

The company may also benefit from the Pentagon's recent decision to increase the rate of production of the Osprey - even though total numbers to be procured were cut in the recent defence review. With production of Chinook and Apache helicopters at a low ebb, the company could use the extra work in its factories now, particularly as it hopes that civil and export orders will eventually replace Pentagon demand.

Meanwhile, the other two US manufacturers, Sikorsky and Bell, continue to languish. That is also the sorry state of the three European competitors, Eurocopter, Westland and Agusta.

These companies show that while rationalisation benefits do not flow easily in this industry, the high costs of production make it very difficult to win orders from cash-strapped governments.

Consolidation may not be easy, but the laws of the market continue to apply.

Eurocopter has at least won approval for its Tiger attack helicopter, although production is to be much slower than originally envisaged. France will not get the first of its anti-tank versions of the Tiger for more than a decade.

And while both the French and German governments are still committed to the NH-90/MH-90 medium transport helicopters, severe budgetary pressures remain and it is unclear how quickly production will build up. This is especially true of the naval version of the NH-90, which may give additional life to versions of the Westland Super Lynx.

However, while Westland continues to market the Lynx, it has had a number of disappointments in the past year, particularly in Australia. Frico, it seems, remains a problem for defence ministries which are keen on the Lynx's capabilities.

Westland is also preening on with the new Merlin anti-submarine warfare helicopter for the Royal Navy, but it and Agusta, its Italian partner, have found the export market for any of the versions of the EH 101 helicopter tough.

Westland is also struggling with production of 87 Apache helicopters for the UK, following the government's decision to fit the aircraft with Rolls-Royce rather than General Electric engines. Even in a bespoke cottage industry it seems, it does not pay to play with the design.

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FT auto

FINANCIAL TIMES QUARTERLY REVIEW OF THE AUTOMOTIVE INDUSTRY

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Thursday June 12 1997

Supply of vehicle parts is concentrated in the hands of just a few specialists. Now vehicle makers are questioning the benefits to them of this trend, writes Haig Simonian.

Alarm bells ring over components

The relentless consolidation of the auto components industry is changing the relationship between vehicle makers and their suppliers. In the first five months of this year, mergers and acquisitions worth more than \$1.5bn were recorded among parts companies - and that was based on published deals alone.

Such rationalisation is changing the face of the components sector. Already, in crucial areas like seals, brakes or airbags, the business has been concentrated among two or three global specialists.

Even in tyres, traditionally an independent sphere, manufacturers such as Michelin have expanded into linked activities such as wheels.

Such rationalisation is inevitable as the motor industry becomes more global, and technological demands increase. These forces have raised the financial and management burdens on smaller suppliers, and provided opportunities for the best-capitalised companies, encouraging the shakeout.

But as the number of key suppliers continues to dwindle, vehicle makers are starting to ponder whether a process which they have largely prompted and encouraged may be turning against their best interests. Fewer, bigger suppliers will

be harder to play off against one another than the myriad component makers of the past.

Vehicle makers are reducing their supplier lists to cut costs, the reward for lower prices being bigger orders. They are also looking to a new breed of "system integrators" to provide entire sub-assemblies, rather than individual parts, thereby simplifying logistics and facilitating vehicle assembly.

The concentration on a smaller pool of preferred suppliers is also part of the vehicle makers' gradual shift of responsibilities to outside specialists to design, engineer and deliver whole sub-assemblies to reduce their own costs and accelerate product development times.

But the pace of concentration has prompted some vehicle makers to question whether the process might prove ultimately counterproductive. Last year's big mergers and acquisitions, such as Bosch's purchase of Allied Signal's brake business, or the Lucas-Varity and Morton-Autoliv mergers, has led some purchasing bosses to argue rationalisation has gone far enough.

But vehicle makers may have unleashed a process they cannot stop. While the pace of consolidation may decline in some areas, such as brakes, where the busi-

ness has already thinned down to just a handful of global players, the frenzy of rationalisation still has plenty of scope in other parts of the supply line.

More significantly, vehicle makers would be short-sighted if they supposed that the concentration among their suppliers will stop at links between functional specialists. So far, consolidation has been functional: seatmakers have bought seatmakers, or companies making other interior components, as they carpets, headliners or door trim.

However, there is reason to believe the next phase of consolidation will come through cross-functional deals. That could see a leading seatmaker, such as Johnson Controls or Lear, which has already expanded into carpets and trim, moving further.

Steering wheels, fascias and switchgear are obvious steps. But what is to stop leading players going further by, say, buying or allying with instruments panel producers or even airbag specialists?

The creation of such suppliers has barely been raised, as observers have been swept up by the pace of intra-functional consolidations. But with no sign of a slow-down in rationalisation, the next stage looks inevitable.



Electric vehicles are a turn-off

Vehicle makers and California's clean air authorities are having to face the harsh realities how difficult it is to persuade consumers to buy or lease electric vehicles in the cause of a cleaner environment, writes John Griffiths.

General Motors has been forced to cut the rental cost of its EV1 electric car, introduced with high hopes into the California market late last year, after only 176 found takers and despite an advertising "spend" which already equates to \$219,000 per vehicle.

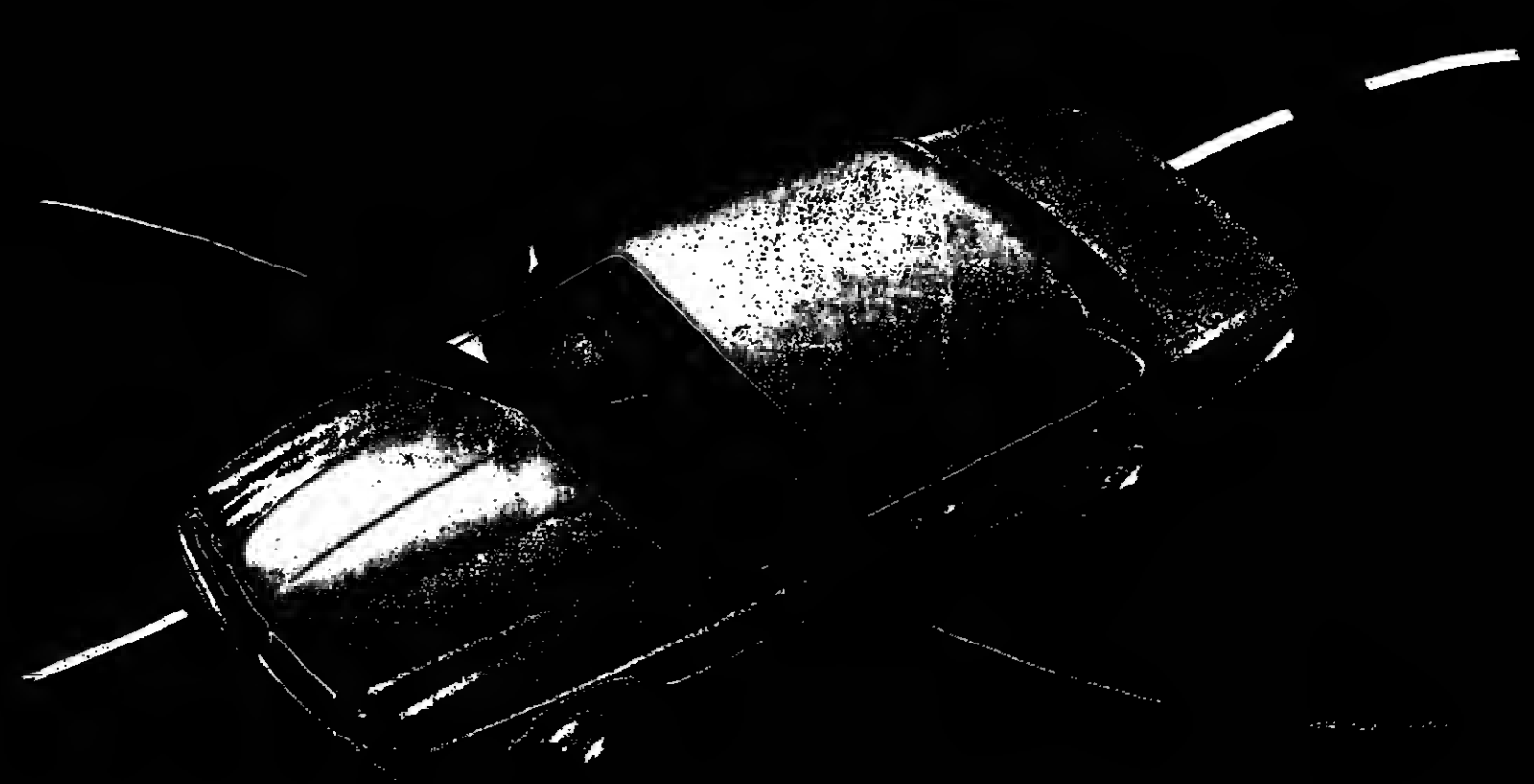
GM's action coincides with the publication of a study by J.D. Power, the influential consumer monitoring and market research group, that only around one in four Americans is prepared to consider buying or leasing an "EV" (electric vehicle) - and even then only if it can genuinely meet their transport needs.

The study made clear that "the true success of the EV will be based on its performance as a vehicle, not as an environmental solution", according to Mr Tom Gohmann, J.D. Power's research director.

The two developments represent a sharp setback for the Californian Air Resources Board (CARB), which has already had to modify legislation requiring the mandatory introduction of EVs to the Californian

Continued on Page 9

REASONS
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People

No-nonsense
Scaroni takes
Pilkington helm

Things will probably never be the same in St Helena, the north-west England headquarters of Pilkington, after last month's surprise elevation of Mr Paolo Scaroni to chief executive of the traditional British glass group.

The non-nonsense Italian, who first got to know the company during a 12-year stint at Saint-Gobain, its French arch-rival, drew closer to Pilkington after masterminding a bid for SIV, the Italian state-owned glassmaker.

Mr Scaroni was then running the Italian arm of Tectin, the big Argentine industrial group, which was Pilkington's partner in the deal. Fearing a venture into the unknown in its first big Italian acquisition, Pilkington decided to err towards caution in teaming up with a local player in bidding for SIV.

That was back in 1983. Three years later, Mr Scaroni had been lured back by the British group to run its illustrious but financially unexciting automotive products side. Then, last month, he was made chief executive of the whole group.

Mr Scaroni is handsome in his praise of Pilkington's technical achievements and its international presence in car glass. But he is scathing about

its inability to match its earnings to its market share and other achievements in Europe.

The automotive business, which has sales of about £1.3bn a year - about half of the group's group turnover - "is making some money, even if not enough", he says.

While Pilkington's automotive activities in the US and the rest of the world "are both in good shape", Europe, which accounts for about 50 per cent of the automotive side, has been consistently disappointing, he says.

The short-term problems lie in original equipment and the aftermarket. Mr Scaroni's challenge in OE is to rationalise Pilkington's hodge-podge of plants into a much more efficient and profitable whole. While Pilkington has spread its tentacles into many markets, mainly through opportunistic acquisitions, it has failed to rationalise adequately, he argues.

There are 17 auto glass plants in Europe alone. "We have to restore manufacturing efficiency," he says. "Pilkington has been very good at acquisitions. But you have to squeeze out the synergies or else you don't get the results."

The first priority is to cut costs.



Paolo Scaroni taking the knife to jobs at plants across Europe

Last week he announced that about 2,000 would be cut from Pilkington plants across Europe. "All of this will amount to very significant annual savings," he says.

By contrast, the aftermarket requires improvements in marketing and distribution, rather than production. The model is Pilkington's US operations. "If we could achieve the same results in Europe as in America, it could mean \$100m to \$200m more in sales a year," he says.

Mr Scaroni wants virtually to don-

the automotive operating profits to 8 to 10 per cent of sales within the next 18 months. He is confident that is possible, provided the current relatively strong market conditions prevail.

Some investors may complain they have heard such tough talking before. But the appointment of an outsider with a strong track record means the chances look much better than before.

Haig Simonian

Companies

Suppliers together
at new Welsh park

Vehicle manufacturers are likely to welcome innovative scheme, writes John Griffiths

One of the world's first "supplier parks" involving leading automotive components companies and their smaller suppliers is taking shape at Resolven, near Neath in South Wales.

The 10-acre park, a venture linking TRW, the US automotive multinational with \$100m annual turnover, the Welsh Development Agency and the local authority, represents the first such venture for TRW.

Supplier parks are becoming increasingly common at vehicle manufacturing plants, where the big components groups have begun supplying their systems directly to the assembly lines. For such a park to be created further down the supply chain, however, is an innovation - but one which vehicle makers are likely to encourage as helping further to reduce the industry's manufacturing costs.

Ground-breaking for the first of what is expected to be eight or nine suppliers setting up in the South Wales park is getting under way, with several expected to be in place over the coming months.

Nissan neatly in the picture

Nissan's UK manufacturing and research operations are setting up their own videoconferencing bureau to capitalise on explosive growth in the company's use of such facilities as a substitute for extensive travel and face-to-face meetings.

Nissan travel costs have fallen sharply as a result of executives and engineers holding nearly 1,500 such

conferences last year. "Videoconferences have become an integral part of the way we do business," says Mr Jim Ord, facilities and services manager at Nissan's European design and development centre at Cranfield, Bedfordshire.

"It is enabling us to make quicker - and better - quality decisions. There is no need to travel for four hours for a one-hour meeting, and up to a dozen people at each location can be involved at any one time. We're also using the facilities more and more to talk to suppliers."

Perkins on prowl for diesel deals

Perkins Technology, the engineering consultancy arm of diesel engine maker VortecPerkins, is to start intensifying its hunt for a consortium of car makers interested in extending their ranges of luxury and executive cars into the advanced direct-injection diesel sector.

Perkins is breaking new ground in developing the six-cylinder, 3-litre, high-speed direct injection (HSDI) diesel. It has been developed in the belief that, whereas no single carmaker could afford to invest in an engine likely to boost sales at most by 10,000 units a year, five or six car makers collectively could provide enough demand for production of the engine to be economic at 50,000-plus units a year.

The HSDI unit, with 170 brake horsepower, is exceptionally powerful for a diesel but is claimed to combine this with much greater fuel economy than either a conventional

indirect-injection diesel or a petrol engine.

Quality gaps to be researched

A three-year research programme aimed at increasing sharply the world competitiveness of the UK automotive components industry is being launched by a consortium of companies under the direction of Cardiff Business School's Lean Enterprise Research Centre.

The programme builds on research into the competitiveness of both the UK and continental European motor components industries already undertaken by the centre's Prof Peter Hines, Prof Dan Jones and Mr Nick Rich. It is backed by British Steel's strip products subsidiary and Innovative Manufacturing Industry (Land Transport).

The past research has exposed very large productivity and quality gaps between the UK and Japanese components industries. However, the approach until now has been on finding "catch-up" solutions rather than seeking out new avenues to gain competitive advantage. The "Leap" (Lean Enterprise) programme will explore ways of more closely integrating raw material suppliers and all other elements in the components supply chain.

"In spite of the excellent work done by world class car assemblers with their direct suppliers, a significant weakness of the automotive supply chain is the limited integration of key raw material manufacturers with the component makers and assemblers," says Prof Hines.

Daewoo UK retailing is added to Farrell's portfolio

Mr Patrick Farrell will act as both sales and marketing director of South Korean car maker Daewoo's experiment with wholly-owned car distribution and retailing in the UK. The former Rover Group director has taken on the tasks of managing sales and the development of Daewoo's unique retailing network - a possible blueprint for other countries in Europe and elsewhere - as well as retaining overall responsibility for marketing strategy.

The changes follow the abrupt resignation of Mr David Gerrans as head of marketing earlier this year.

"It's a challenging role," says Mr Farrell. "We have 185 outlets but are still developing our retail network. Daewoo has sold more than 40,000 units in the UK since the cars went on sale two years ago."

The Korean car maker, which has ambitions to become one of the world's top 10 producers within a decade, is effectively using the UK as a "laboratory" for the new sales system. It operates through conventional franchised dealer outlets in other European countries.

At AC Car Group, the UK-based sports car maker rescued from

receivership by Mr Alan Lubinsky's Pride Automotive Group, is changing its management structure in order to introduce what the company describes as "a more disciplined" approach to design and production engineering.

Mr Jan-Erik Jansson, 53, formerly technical director of the MGA engineering consultancy, is taking over as general manager charged with exerting tighter controls over the development and manufacturing processes of the company's new up-market Ace model as it moves towards its launch at the London motor show in October.

"In recent years, the enthusiasm of the team here has not been matched by a properly disciplined approach to the engineering control essential for any manufacturer seeking a future in this industry," says Mr Lubinsky.

Before joining MGA, Mr Jansson had spent 17 years in various engineering and managerial roles with Volvo.

AC, best known for the Cobra, is planning to re-establish a European sales network for the marque.

John Griffiths

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FINANCIAL TIMES Automotive

The Automotive Supply Chain

New strategies for a new world order

Expert analysis of the pressures facing the industry and their impact on the supply chain into the 21st Century. Find out who's in the top 25 global suppliers, get a clear picture of the mass of mergers and acquisitions, understand the purchasing policies of the manufacturers and the prospect of super-suppliers, and many more crucial issues.

Automotive Components Suppliers

Winning in a global market

Provides sixty detailed profiles of the leading global suppliers, reviewing their activities, failures and successes - a must for any benchmarking activities.

Automotive Components

Technological changes to 2010

Find out how new technology will transform the automotive industry over the next decade and who is best placed to profit from the developments.

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Revolutionising New Product Development

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New and updated

With every segment of the car market becoming more competitive as manufacturers look to new niches and reduce product development times, even the furthest between big international motor shows are proving rich in product news, writes Haig Simonian.

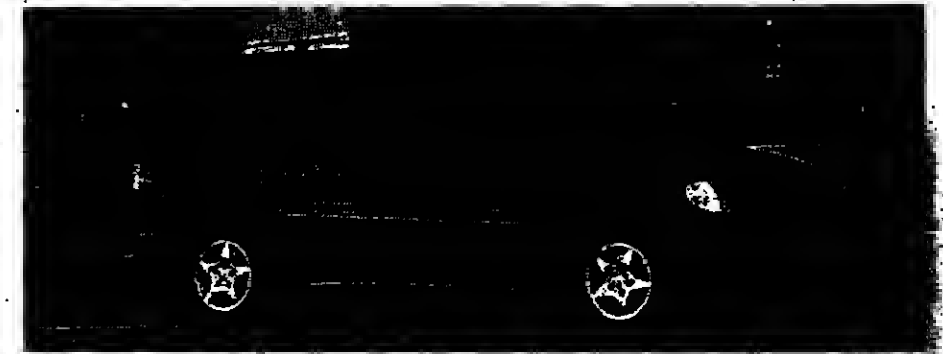
Mercedes-Benz, which is in the thick of an ambitious plan to raise sales to 1m units by 2000 from 645,000 last year, took the wraps off its US-built M-Class sports utility vehicle last month.

Made at a new \$600m plant in Tuscaloosa, the M-Class, which cost \$700m to develop, will take Mercedes-Benz firmly into the booming sports utility market.

At about \$35,000 for the base 3.2 litre model, few observers doubt it will be able to find enough buyers to soak up the 70,000 units a year due to emerge from Tuscaloosa once production reaches full swing in 1998. About half the vehicles are earmarked for North America, with western Europe accounting for most of the rest.

As even less familiar niche for Europe's biggest luxury car brand is minicars. However, Mercedes-Benz and SMH, its Swiss watch making partner in the Micro Compact Car joint venture, have also unveiled their revolutionary new Smart two-seater.

The Smart, which boasts a variety of innovations including a new 650cc petrol

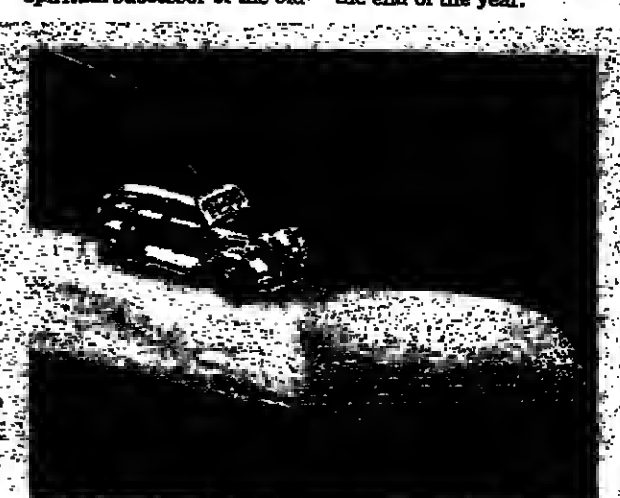


Mercedes-Benz M-Class: The sports utility vehicle is now rolling off the Alabama production line



Toyota Corolla: familiar name with some fresh European looks

engine, to be followed by diesel and hybrid variants, will cost from DM16,000 when sales start in Europe next spring. Renault, which has made a name for itself creating niches with innovative products like the Espace and the Mégane Scénic, let alone exploiting them, has come up with another surprise. Intended to be the spiritual successor of the old



micro-engineering technology. Driven by an electric motor just 0.7mm in size,

the engine's five parts are wrapped in 1,000 turns of incredibly thin copper wire which is

Toyota may not be so big on niche products, but it has spotted a trend when it sees one. The latest generation of the legendary Corolla lower-medium-sized range sports unusual new elliptical headlights in a nod to the pioneering work of Mercedes-Benz on the E-Class. Described as "a distinctive face in the crowd" by the company, Toyota has tried to make the new Corolla stand out in the biggest and most competitive segment of the continental European car market.

The company hopes the new product, which has been designed specifically for Europe for the first time, will tempt 180,000 buyers next year, compared with 118,000 in 1996. Plans to build the five-door L1000 version at its UK plant from late next year and the three-door hatchback from 1999 should give it a healthy step up.

only 100mm thick, but their is a 100mm wide. The original design, which the L1000 model depicts, was first produced as a vehicle, based on a small Chevrolet, with the production in the price of \$13,300. The on sale until 1998. The model, produced in a one-off run, was an aluminium alloy, subsequently removed using a special melting process and the 30 micron-thick body shaped, with a coat of gold plating at the end for decoration.

John Griffiths

Focus: The components industry

Globalisation forces big push

Modular construction is leading to closer links in the automotive sector, writes Haig Simonian

When the world's investment bankers do their year-end tallies, a disproportionately large share of revenues will have derived from automotive components companies.

Few sectors have been through such convulsions in so short a time in reaction to the twin forces of rationalisation and restructuring.

Rationalisation has been the more pervasive of the two influences at work. The globalisation of the vehicle industry has forced suppliers to push into new markets. Vehicle makers' moves into newly-industrialising regions, such as South America and Asia, has obliged suppliers to keep pace. By contrast, earlier moves by car makers into "new" markets, such as by US companies into Europe more than 50 years ago, did not require the same effort as the region already had a developed industrial infrastructure.

Globalisation has spurred rationalisation. Not every parts maker wants, or is able, to internationalise. That reluctance has created opportunities for more ambitious or better-capitalised companies and polarised the industry between stronger and weaker players.

Relentless pressure on prices has hastened consolidation. The consistent demands by vehicle makers for ever-lower prices has weeded out smaller or less efficient manufacturers from bigger rivals offering better economies of scale.

Rationalisation has been reinforced by vehicle makers' increasing tendency to share their business among a smaller supply base. Simplifying the supply base is designed to cut costs as vehicle makers demand bigger discounts for their larger

orders. The concentration on a smaller number of sources has been intensified by the trend among vehicle makers to base future models on a smaller number of global "platforms" (basic engineering structures).

The trend towards more complex systems and modules, rather than individual parts. Pressure for cost savings among vehicle makers has led them to simplify vehicle assembly techniques. One of the most striking consequences has been the requirement for modules and sub-assemblies, such as entire cockpits or front-ends, which are put together by one supplier from the sub-components of a myriad others.

Virtually all the new cars now being launched or on the drawing board use modular components in some form or another.

The trend towards "modularisation" has created a new breed of "system integrator" on the supply side. Such companies no longer produce just individual parts, but build entire sub-assemblies for their car and truck making customers. But modular construction has increased the financial and technological burdens on suppliers, accelerating the consolidation of the industry.

Building modules requires a bigger co-ordinating role for a components maker, which must also play a bigger part in product development than if it just supplied a few simple parts.

It can often also require closer physical proximity to a customer's plant. Car factories are now being designed to have an adjacent supplier park to ensure just-in-time delivery and reduce logistics costs. Such parks are also being built adjacent

to some older plants, where space permits.

Sometimes, modularisation is even linked to financial risk-sharing at a new breed of car and truck plants.

At Volkswagen's truck and bus factory at Rosende, Brazil, most of the work - and financial risk - has been taken on by a small group of key suppliers, with VW limiting its responsibilities to final assembly and quality control.

Comprehensive figures for the value of mergers and acquisitions in the supply sector are hard to come by. In many cases, especially those involving family companies, prices are not revealed. But based on the biggest publicised deals

important components, the number of significant suppliers has fallen to just two or three mammoth manufacturers; Keiper was Germany's last independent seat maker. Increasingly, any vehicle maker which wants to buy seats must address either Lear, Johnson Controls or Magna International.

The Keiper transaction also highlighted the fact that US components groups have been leading the acquisitions drive in the 1990s. The reason is that the US companies tended to be focused on supplying the big domestic auto industry. While European companies also had a regional focus, their coverage has often been more global, reflecting the more global presence of big Euro-

The aim has been to improve efficiency and profitability by making them more transparent and by underlining the fact that such subsidiaries cannot expect to win in-house business automatically in future.

The process has gone furthest at Delphi, GM's components arm. In recent months, GM has decided Delphi should take control of Delco Electronics, the auto electronics division of Hughes Electronics, another GM subsidiary. Incorporating Delco, which is about the same size as one of Delphi's six divisions, will push annual sales to about \$32bn - increasing its lead as by far the world's biggest car parts group.

GM has also indicated it may float up to 20 per cent of Delphi in a further step to increase transparency and make the parts side more competitive. The timing and details remain unclear. However, the spin-off is almost certain if for no other reason than the fact it could raise up to \$3bn for GM, according to some analysts.

Ford has recently started moving in the same direction. Late last year, it decided to put its components activities into a separate subsidiary. Although smaller than Delphi, Ford's components business is one of the largest in the industry. Flotation is not on the horizon, but Ford's management appears to be thinking along the same lines as GM's in making the unit more transparent and - it hopes - more competitive.

A number of big independent parts companies have also taken the restructuring message on board. LucasVarity, the Anglo-American group formed by a merger last year, is now implementing its match. More recently, Rockwell, the big US industrial group, has announced plans to split off its automotive operations, which have sales of more than \$8bn, into a separate company by the end of September. More are bound to follow.

Main components deals of 1997

Acquirer	Value of deal	Target
Tectron Automotive (US)	\$305m	Kautex (Ger)
Eddle (US)	Not disclosed	CEAG (Ger)
Magna (Canada)	\$340m	Georg Naeher (Ger)
Magna	\$52m	Tricom (UK)
Tower Automotive (US)	Not disclosed	Societa Industrie e Stampaggio (Italy)
Lear (US)	\$235m	Keiper Car Seating (Ger)
Tomkins (UK)	\$606m	Start (US)
Michelin* (Fra)	Not disclosed	Mannebaum
Hayes Wheels** (US)	\$295m	Kronprinz (Ger)
		Lammerz (Ger)

* buying 51% ** buying 78.6%

Source: Auto Business/FT

alone, the value of takeovers and mergers comfortably exceeded \$15bn last year.

This year has also started off strongly. Tomkins, the UK industrial group which last year spent \$1.38bn to buy Gates Rubber of the US, has consolidated its position with the \$606m acquisition of Start, a US rubber group best known for its Trico windshield wiper blades. Among the other significant deals of 1997 has been the purchase last month by Lear, the fast-expanding seating and interiors group, of Keiper Car Seating, the German seat maker.

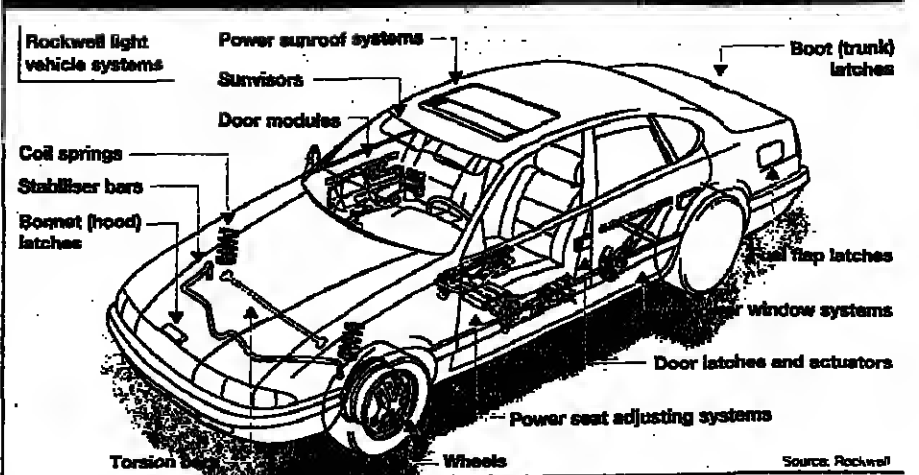
The Lear deal highlighted two key trends in the industry. It showed that, for many

pean carmakers and truck makers such as VW or Mercedes-Benz.

The belated internationalisation by US components companies reflects both the trend among their customers to go global and the fact that many of the new "world" car projects involve smaller, European-originated products. Both Ford and GM have based their global small-car development operations in Europe.

Restructuring has been the industry's other theme. The onus has come predominantly from the vehicle makers. GM and, to a lesser extent, Ford have lived off their components operations into separate units.

THE MAKING OF A CAR



Rockwell on course

The automotive operations of US industrial group Rockwell International, currently worth some \$3.2bn a year, are on course to be spun off under a new name by the end of September. The new company will rank as one of the world's top 12 automotive components suppliers.

The two main automotive operating divisions - light and heavy vehicle systems, which in the past have tended to operate separately - are already well into a merger process under Mr Larry Yost, who has been named president and chief executive of the new automotive company.

Mr Yost joined Rockwell in 1971 as a production and inventory control manager. He has been president of the heavy vehicles systems division since 1984. "Establishing a separate Fortune 400 company for these businesses is an excellent way to improve customer focus and expand leadership positions in our target markets," he says.

The two divisions employ 16,000 people around the world. The heavy vehicles division is a leading supplier of drivetrain components for heavy trucks, buses and off-highway vehicles. The larger of the two divisions, it accounted for around \$1.8bn of last year's sales.

The light vehicles division is a leading supplier of door assemblies, suspension sub-systems, sunroof assemblies, electronic components and wheels from a matrix of plants scattered through almost every significant vehicle producing region, including India and China. The group's brand names include Golde (sunroofs), Fungigalli (wheels), ROR (trailer axles) and Rockwell-Wabco (anti-lock truck brakes).

The restructuring leaves most of the top management team in place, including Mr Robert Calder, who will continue to head up the light vehicle operations. Mr Calder has been president of the light vehicle systems

division only since 1994, but in various capacities has played a leading role in directing its strategic growth into a fully global player for considerably longer. Between them the two divisions have nearly 50 manufacturing facilities and affiliated companies in 20 countries, with a customer base of around 800.

Mr Calder, Canadian born and a former managing director of International Harvester in the UK, also played a key role in the development of Rockwell's European operations and was responsible for setting up the group's engineering and design centres, used as a common, interlinked resource by the group's manufacturing plants worldwide. "We are now almost everywhere that a customer needs us to be," he maintains.

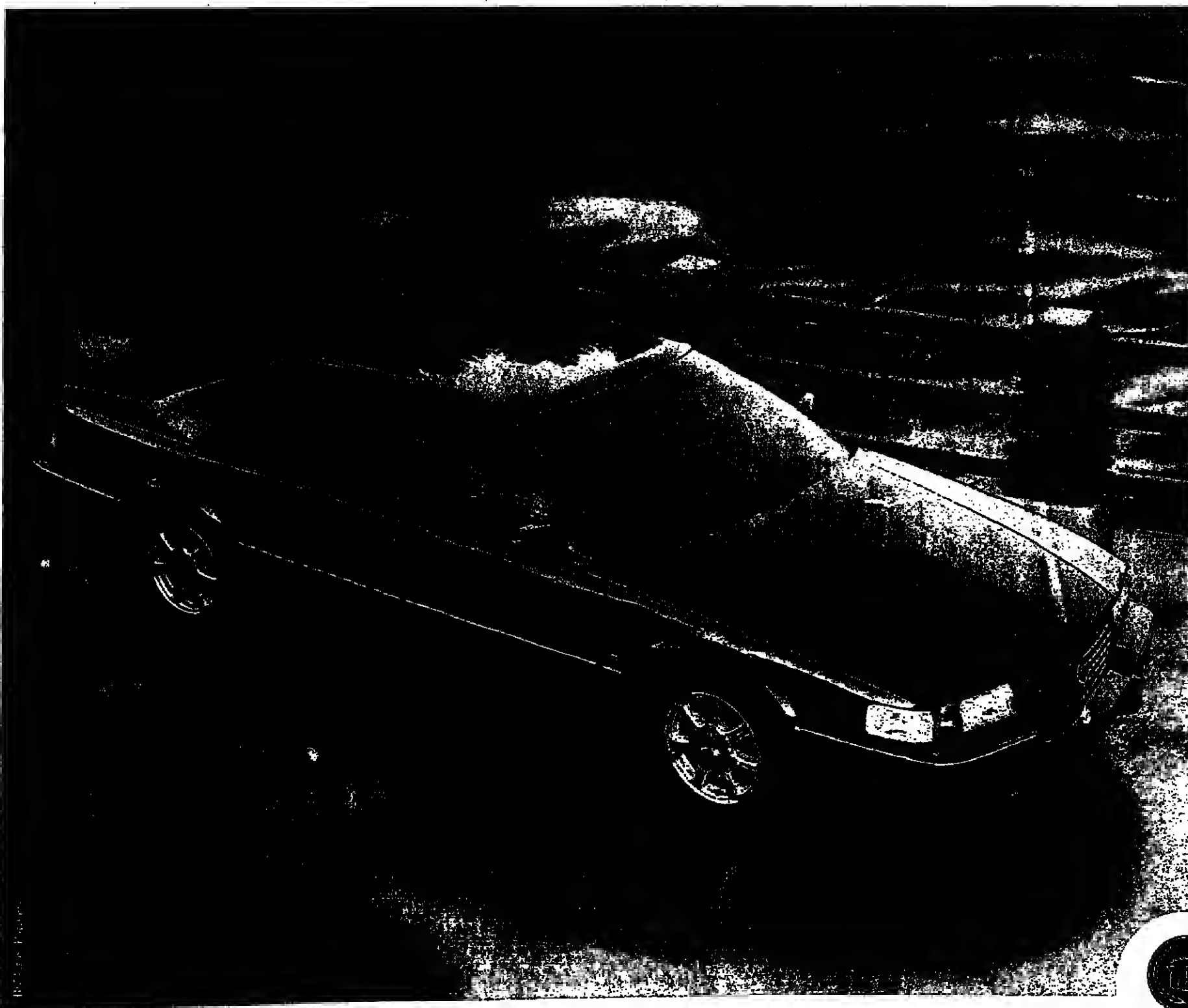
Rockwell has tended to shun licensing agreements in favour of creating wholly or majority-owned subsidiaries so that quality, design and production can be kept firmly under its own control. It claims to be deriving significant competitive advantage from the policy. This is particularly the case as the big vehicle producers such as Ford and Volkswagen are moving towards what Mr Calder describes as "universal" car body platforms, the appearance and drivetrains of which can be tailored to meet the different needs of most markets at considerable economies of scale.

In empathy with this process, a single management team has been given global responsibility for each major product line, including all plants in all countries which produce and supply it.

Independence, and listing as a separate company on the New York Stock Exchange, is coming at a time of projected strong growth.

John Griffiths

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Cadillac

Focus: The components industry

Security controls are tightened

Investigations into corruption are continuing in Europe, reports Haig Simonian

After a flurry earlier this year, attention has drifted away from the allegations of widespread corruption in the components industry as car makers and suppliers have reviewed their procedures. However, the fact that corruption, especially in Europe, is no longer hitting the headlines does not mean it has gone away.

At Volkswagen, Europe's biggest car maker, which was at the heart of this year's allegations, investigations have spread to 12 individuals.

Details of the case, triggered by allegations of kickbacks on the new paint shop at VW's Skoda subsidiary, remain sketchy. But the investigations in Germany and Switzerland are continuing.

The VW affair has prompted many automotive groups to revise their control procedures. "If you have someone who's really out to steal from a company, it's very difficult to control," says Mr Jac Nasser, head of Ford's worldwide automotive operations.

But Ford is just one of the companies which have taken a fresh look at their procedures. "We have a very intense internal control system. But clearly, when you read about things happening, you tend to make sure your internal controls are working," he says.

The first line of defence against corruption is a clear code of conduct for staff in sensitive positions, such as purchasing. It is difficult to find a leading car maker or supplier which does not have some document or letter for senior staff to sign to prove they understand and comply with the rules.

Mr Jacques Calvet, chairman of Peugeot-Citroën, says the company has introduced a standard letter in the past year to be signed by all managers. This sets out policy on conflicts of interest and should an executive leave for a competitor.

Last year, General Motors shocked its staff and suppliers with a draconian new code of ethics. In an attempt to clarify policy, it identified how staff should behave in situations where they might find themselves compromised.

Employees were forbidden from accepting hospitality of all but the most mundane nature, and from accepting gifts. Even an invitation from a supplier to play golf was considered potentially compromising. "The aim is to avoid any situations in which an employee may feel beholden," explains an official.

But such clear-cut policies have not always been typical.

In Italy, for example, "it was an open secret for years that senior staff could make money by skimming contracts with suppliers", says a leading observer. Such practices were sometimes almost encouraged by employers to keep salaries low in a tacit understanding that staff could supplement their incomes illicitly, he claims.

Some senior executives believe a similar, if less extreme, situation once prevailed in Germany. According to the former head of European operations of a leading multinational car maker, Germany's relatively high personal taxes fostered a willingness among employers to turn a blind eye if staff occasionally received non-financial benefits, such as free building work on private property by contractors used by the company.

Ethics apart, the sheer size of the German motor and components sectors suggests corruption is likely to be more widespread than elsewhere in Europe. But matters may have been exacerbated by the very close relations between car makers and core suppliers. "It was almost like a cartel," says a former executive with close knowledge of Germany.

While such general comments are hard to substantiate, senior executives are much more specific about how



corruption works in practice. Mr Tom Stallkamp, head of purchasing at Chrysler, notes the risk of kickbacks is greatest on big, one-off contracts for infrastructure projects, such as factories or paint shops.

"The risk is always greatest with things which are non-repetitive," he says. "One-off projects do not offer the chance to make comparisons, especially on a regular basis. And there's no one opening up the files all the time to see what happened last time."

By contrast, policing regular orders for important components, such as tyres or glass, is much easier. Any discrepancies in pricing are likely to be detected quickly, he thinks.

About the only repeat orders where prices may have been inflated are for the hugely expensive metal dies used in press shops. "Dies need to be replaced regularly, and they're very expensive. Yet they're so crucial no one would risk saying a company should buy fewer or risk an untold source," says the chief executive of one big car company.

With so many potential risks, how can carmakers protect themselves? Mr Calvet suggests five rules:

- A no-nonsense corporate culture. A company must make clear the sanction for any form of corruption is dismissal.

- Mr David Herman, chairman of Opel, GM's German subsidiary, says the group operates a no-qualms policy: in any proven case of corruption, the employee concerned is dismissed. And, rather than hushing the matter up, the police are informed.

- Careful recruitment. Sensitive hiring is particularly important in purchasing. Peugeot-Citroën even subjects candidates to handwriting tests.

- Frequent rotation. Moving people around excessively is inefficient. But regular rotation is one way to prevent key purchasing managers getting too close to suppliers. "Otherwise, personal relations can get a bit too close, even if there's no suggestion of anything underhand," says Mr Calvet.

- A horizontal management structure. No single purchasing manager should be responsible for a big contract. Rather, the function should be handled by a team.

- Rigorous supervision. "A case is investigated each time we have any doubts, even after receiving an anonymous letter. If there's any uncertainty in our mind, we substitute the person concerned. If there is any serious doubt, they are dismissed," says Mr Calvet.

Such tactics have helped to clean up the business in the past decade. But the chances of corruption occurring may be diminishing as much through structural change as companies' policies.

Mr Bob Eaton, chairman of Chrysler, believes the steady rationalisation of components makers will inevitably improve control and surveillance procedures. As suppliers grow larger, policing will become more rigorous and professional, he argues.

Structural changes are also under way among car makers. The need to cut costs has prompted a search for new, cheaper sources of parts. That has broken up cosy relationships and opened the suppliers to greater competition. Together, rationalisation and competition are probably

PROFILE

Patient is responding to treatment

General Motors said in January that it was considering a public offering of up to 20 per cent of Delphi, the name given two years ago to the broad array of components businesses which have made GM the most vertically integrated of all the big auto makers.

That in itself is a sign of how far the Delphi businesses have come since the early 1990s. And if the unit meets its targets over the next five years, it will have gone through a second big transformation, making it a far different - and far more international - company.

The US's largest auto maker revealed for the first time earlier this year just how steep Delphi's losses were at the start of the decade: more than \$400m in 1991, followed by more than \$50m - greatly exaggerated by accounting adjustments - the following year.

By those standards, the turnaround of the mid-1990s has been significant. Its after-tax profit margin had climbed to 3.5 per cent by 1995, putting it well on the way to the 5 per cent it had targeted by

2002 (it fell last year, though, pushed that figure down again, to 2.8 per cent).

The unit's management team, installed in 1992, can lay claim to having largely completed phase one of the task: shedding or fixing most of Delphi's chronically underperforming plants (there are now only around eight on the "black list", compared to 50 five years ago).

Sorting out Delphi businesses has involved closing or consolidating 33 plants and shedding \$4.5bn of business, says Mr Bill Munn, executive in charge of operations. The next five years could see changes of similar proportions, he adds, though Delphi refuses to identify the business lines it plans to leave.

Much of the work over that time will continue to be on making Delphi's US plants fully competitive. Also, GM wants the unit to establish enough of a business for customers outside the group to make it a truly free-standing company - particularly by expanding outside the US.

With a largely unskilled workforce paid at a similar level to GM's assembly line workers, Delphi's US labour costs are well above its largely less-unionised competitors. Attempts to change that have made Delphi the focus of much of the labour unrest that has bedevilled GM.

The labour unrest, though, affects many customers other than GM, and could hamper Delphi's attempts to expand its relations with other auto makers. The latest strike, for instance, erupted at Delphi's Packard Electric Division, which makes electrical wiring for most big car makers beside GM.

So far at least, Delphi has remained on track to meet its target of 5 per cent for the operating margin of its non-GM business. Last year, this amounted to 36 per cent of sales, up from a decade earlier, and a year before GM had set a target of 50 per cent of sales coming from outside the group by the end of 2002.

Another factor likely to transform the group's prospects will be Delphi's merger, planned for late this year, with Delco

Electronics, the auto electronics arm of Hughes, a GM subsidiary.

In the short term, Delco will sit alongside other Delphi divisions as a separate business, says Mr Munn. But electronics are becoming an increasingly important component in many parts of the business, and the group is likely eventually to be fully integrated with other Delphi operations.

This combination will wait some months longer for regulatory, tax and shareholder approval - meaning that Delphi will not make its stock market appearance before next year, at the earliest. But, according to Mr Munn, it will bring an expertise that will set the group apart from its competitors.

"Most of the traditional suppliers are really struggling with electronics," says Mr Dave Cole, head of the Department for the Study of Transportation at the University of Michigan. By absorbing Delco, Delphi will "become a very powerful force - the 500th gorilla of the industry", he adds.

Richard Waters

New Automotive Co

0-3,000,000,000

Over US\$3 billion in sales, 16,000 employees world-wide, and 45 manufacturing facilities in 20 countries. Not bad for a new company that's on the starting grid. And it's all because Rockwell has announced that its automotive components system business will be a separate public company. By focusing exclusively on the automotive sector, this new company will concentrate its resources where it matters. Improving flexibility. Bringing innovations to market faster. Serving customers better.

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Handwritten signature: *John Collins*

Focus: The components industry

PROFILE LucasVarity

Model for an ideal marriage

Pole position among companies restructuring in the components business has gone to LucasVarity, the Anglo-American supplier. A year ago, its rivals were rocked by news of the \$4.8bn merger of Lucas, the British braking, diesel and electronics group, and Varity, almost its US mirror image.

Twelve months down the road, the LucasVarity deal is still shaking the sector as companies examine the marriage as a potential model.

LucasVarity had the advantage over many potential mergers in that its two partners were an almost perfect match, says Mr Tony Gilroy, the group's chief operating officer. Lucas was strong in foundation brakes, especially among car makers in Europe. By contrast, Kelsey-Hayes, Varity's braking subsidiary, specialised in electronic braking for heavier vehicles, particularly in the US.

Braking forms the core of the united group's seven operating divisions. But diesel engines also dovetailed with the combination of Perkins, the Lucas subsidiary, and Varity's diesel operations. The other main automotive manufacturing activities include diesel systems and electronic management systems.

Surprisingly, the practicalities of marrying the two companies were carried out without the intervention of outside consultants. Mr Gilroy says LucasVarity approached other big groups which had recently merged, such as GlaxoWellcome and SmithKline Beecham. In the end, it concluded that a master plan implementing the deal could be devised internally.

"We decided the process we developed ourselves was as good as anything we could get externally," he says. However, he admits Mr Peter Drucker, the manage-

ment guru who sits on LucasVarity's advisory board, played a benevolent role in the background.

Mr Gilroy underlines four broad priorities that were decisive in helping to put the merger into practice within six months of being announced.

Speed tops the list. LucasVarity decided to create 15 transitional teams, co-ordinated by Mr Gilroy, to examine what the merger required in practical terms and how these recommendations should be implemented. Acting quickly allowed the company to meet its schedule of completing the studies, which began in July 1996, by December that year.

"Ownership" is Mr Gilroy's second theme. While seven of the teams represented LucasVarity's main business units, six more were functionally-based and the remaining three were occupied with determining

best practice. "The seven business teams had to accept what the functional teams and the best practice teams told them," he says.

Such cross-cutting responsibilities reduced the risk that representatives from the business units would obstruct change to preserve their fiefdoms.

Starting from a clean slate was the third lesson, he says. "There was a willingness to consider anything, with no holds barred." The lack of pre-conceptions was emphasised by the relative youth of team members, whose average age was just 36. That was old enough to have experience of the business without becoming dyed in the wool, says Mr Gilroy.

A commitment to *kaizen* - the Japanese concept of continuous improvement - was the final message of the implementation process. Although the merger is now being implemented, there remains a continuing sense

that LucasVarity must keep questioning even basic assumptions and operating practices, he says.

With the homework done and implementation well under way, attention has turned to expanding the merged business. The first stage involved identifying activities deemed to be non-core, prior to divestment. Of the 13, one has already been sold, while two others are undergoing due diligence. "We are confident we will dispose of all of them by the end of the year," says Mr Gilroy.

Apart from LucasVarity's aftermarket and aerospace arms, the remaining five divisions are all among the world leaders. The group ranks second in light vehicle brakes, behind Bosch but ahead of ITT, and fourth in braking systems for heavy vehicles. The diesel systems business is also second to Bosch. Ranking the diesel engines operation is compl-



Tony Gilroy: Four broad priorities for merger plan

cated by the fact that most vehicle manufacturers make their own engines. Although smaller than Cummins, the other big independent diesel engine maker, VarityPerkins is more profitable, says Mr Gilroy. In electronic management systems, the group only ranks "about seventh overall". However, he notes the sector is very frag-

mented and that LucasVarity is among the leaders in certain areas.

The emphasis now is on squeezing out the cost savings promised from rationalisation and on growth. With LucasVarity already among the front-runners in most of its automotive businesses, Mr Gilroy implies that the most likely

deals will be bolt-on acquisitions to fill out its coverage. Significantly, two of the three purchases made after the merger were in the automotive aftermarket, while the third was in aerospace - areas where the group must still build up its presence.

He does not rule out further transactions, although he refuses to identify where "as this might give a signal to our competitors". The broad aim will be to fill out remaining product gaps and reduce the group's vulnerability to economic cycles by broadening its geographical coverage, he says. "Cycles are less violent than in the past, but we want to take advantage of upswings wherever they are."

Asia tops the agenda. LucasVarity already has six joint ventures in China, two in India and one in South Korea. "The company has been 'very public' about its determination to grow in Asia, he says. "The fact that we've got six joint ventures in China which are less than six years old is indicative of our interest."

Haig Simonian

PROFILE Magna International

Pain gives way to pleasure

Mr Frank Stronach's shrewdest move in a long business career may have been his painful decision to April 1988 to step down as chief executive officer of RBC Dominion Securities in Toronto, the Toronto-based automotive parts maker that he founded and still controls.

Magna seemed to be going off the road in the late 1980s. It struggled under a heavy debt burden at a time of weak demand in the North American car market.

Mr Stronach was distracted by a variety of outside interests ranging from a disco, an ambitious magazine venture and a stable of racehorses, to an unsuccessful run for parliament in Canada's 1988 general election.

He had trouble persuading outsiders to take seriously his unorthodox management techniques, including a Corporate Constitution, a Magna Employee's Charter and a Fair Enterprise System, centred on generous profit-sharing and production incentives.

But since Mr Stronach stepped aside from day-to-day management, and creditors restructured the company's debt, Magna has blossomed into one of North America's biggest and most successful components makers.

A spate of acquisitions, mainly in the UK and Germany, has also turned it into a significant supplier to European car makers, notably, Mercedes Benz, Volkswagen, BMW and Rover.

Magna now employs 33,000 people at almost 140 factories and research centres. Its product range is sufficiently broad that it designed a car a few years ago almost entirely from Magna parts. According to one official, the car was not put into production because Magna didn't want to compete with its customers.

Recent UK acquisitions include Caradon Rollins, which makes plastic bumpers; Marley, an interior components supplier; and Tricon, which specialises in seats. A \$1.2bn cash pile gives Magna the wherewithal to sustain the pace of expansion. A thrust into Latin America, probably Brazil, has been mentioned.

Mr Graham Orr, executive vice-president, says: "We're really driven by the car companies who are going global in their demands for full-service suppliers. We want to replicate in Europe the core businesses that we have in North America."

Magna's earnings soared to \$197.3m, or \$2.58 a share (before gains from disposals) in the six

months to January 31 1997, from \$139.5m, or \$2.13, a year earlier. Sales climbed 39 per cent to \$3.68bn.

Mr Michael Lam, analyst at RBC Dominion Securities in Toronto, forecasts 18 per cent compounded earnings growth over the next three years, reaching \$37.75 a share in the year to July 31 1999, excluding acquisitions.

Europe now contributes about a quarter of Magna's sales. Mr Stronach, 65, who emigrated to Canada in the mid-1960s, these days spends most of his time in Switzerland and his native Austria, helping direct the European expansion.

The Stronach-inspired corporate culture that seemed quirky a decade ago is now credited with spurring Magna's success.

The culture balances generous incentives and an emphasis on teamwork, with a single-minded work ethic and an unrelenting squeeze on costs.

According to the "constitution", 10 per cent of pre-tax profits must be allocated to employees in the form of cash and share purchase schemes.

Senior managers' salaries are required to be pegged "below industry standards". A plant manager, overseeing as many as 800 workers typically earns only \$75,000 to \$80,000.

Cash and share bonuses, totalling as much as 5 per cent of a plant's profit, can multiply the base salary several times, although only a portion of the shares can be cashed in each year. The bonuses (for managers and workers alike) are in lieu of a company pension plan.

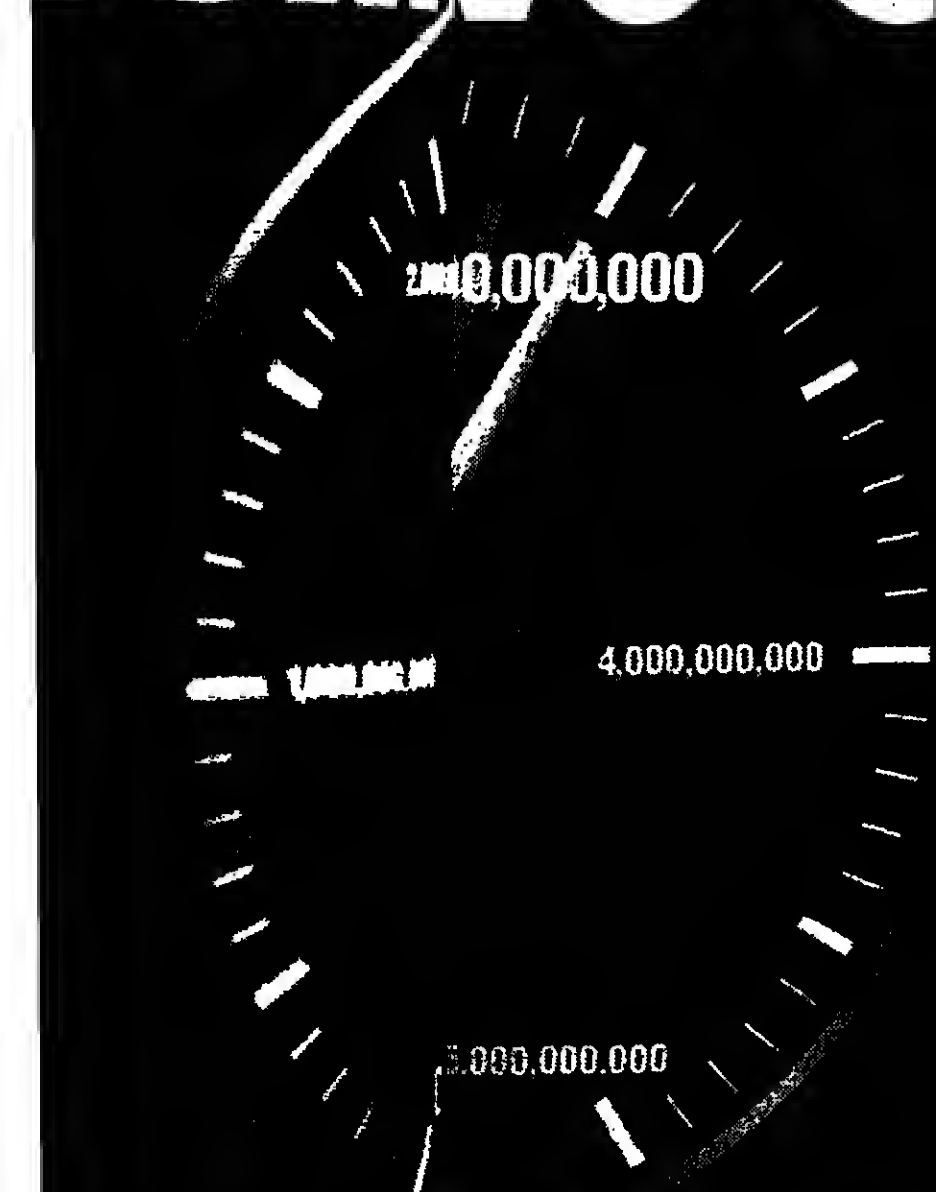
Copies of the employee's charter, translated into 10 languages, dot the corridors of Magna factories.

Magna says wages at each plant are well above the average for the surrounding area. It declines to disclose wage rates, but the charter promises "if your total compensation is found not to be competitive, then your wages will be adjusted".

Behind the generosity is a strong aversion to trade unions. Ms Maureen Kirincic, a Canadian Auto Workers (CAW) union organiser, says "there is no company that spends as much money and effort fighting unions as Magna". Ms Kirincic acknowledges that Magna workers are relatively well paid and generally contented. But she claims activists are quickly shunted to other jobs, or shown the door.

Bernard Simon

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 **Rockwell Automotive**

Technology

CGI is starting to make heads turn

John Griffiths reports on advances in the manufacture of materials for engine blocks

After nearly 40 years, compacted graphite iron (CGI) may be on the point of advancing from the automotive industry's sidelines as a strong, cheap, lightweight material for key engine components such as engine blocks and cylinder heads.

With great caution, and with still much testing to be done, parts of the industry are showing signs of concluding that - thanks to new process technology - CGI may be emerging as an attractive material for vehicle makers in their relentless quest to save energy and vehicle weight.

A factor holding back earlier advances has been the fact that the material is exceptionally difficult to produce in volume.

Now, however, Gifunsa, a Mexico-based supplier of engine blocks and cylinder heads to North American vehicle producers, has installed a system in its foundry to start production of components made from CGI on a commercial scale. Gifunsa, which supplies around 50 per cent of the blocks for North America's heavy truck diesel market, has total capacity of 260,000

tonnes, and is preparing to launch its own aggressive marketing campaign for CGI. The Mexican move follows an agreement last year between the process creator, SinterCast of Sweden, and the South Korean industrial conglomerate Hyundai, which is now testing CGI blocks produced at its Ulsan automotive foundry using SinterCast's process.

A five-year relationship between SinterCast, General Motors Europe and its German subsidiary, Adam Opel, is moving to a new and potentially important phase after Opel's use of CGI engine blocks in its European touring car motor racing programmes.

Compared with the standard grey iron block used in the standard Opel Calibra coupe, the CGI-based racing engine used for Opel's racing touring car challenge developed nearly three times the horsepower, offered 40 per cent less internal wear, and weighed 20 per cent less.

GM, which made its first test castings using the SinterCast process at its Fritz Winter foundry in 1992, launched a trial programme in 1995 to redesign its main

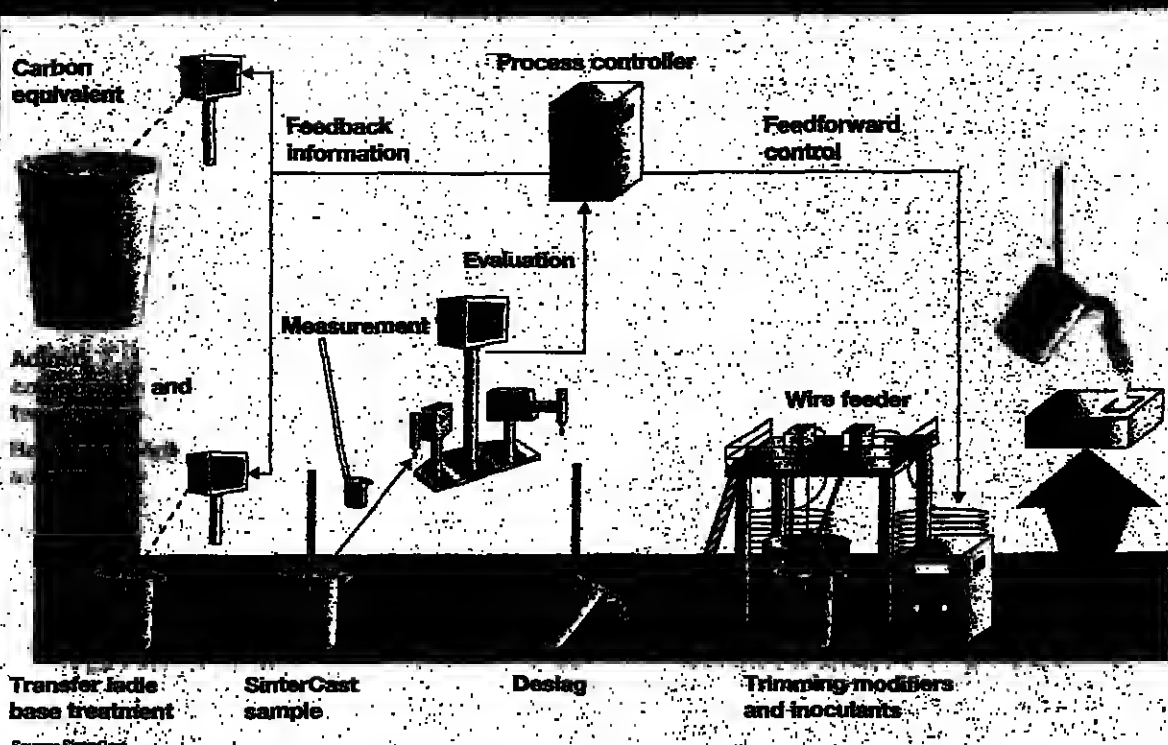
"Family 1" small car to incorporate CGI to maximise savings in weight. It is now conducting machining trials with a view to making CGI castings an integral part of future volume engine programmes.

The aluminium industry, looking to vehicle makers as the source of significant incremental business in the form of both lightweight bodies and engine and other drivetrain components, as yet has no real cause for concern. But it may need to start paying attention.

CGI is still a lot heavier than aluminium - the same block made of aluminium would be 37.5 per cent lighter than one made of cast iron, whereas a CGI block would be only 25 per cent lighter. But CGI is claimed to be considerably cheaper to produce, and when recycling is taken into account, to require only one-ninth the energy input of aluminium for a similar function and life.

CGI has a vermicular structure which makes it almost twice as strong as the grey iron which has been the traditional material of most cylinder blocks. Its production, however,

The SinterCast process



requires additives to grey iron in the foundry at such precise levels that the production of stable CGI on a large scale has not been possible.

It is a problem SinterCast has been addressing for many years and, according to its managing director, Mr Bartil Hagman, has finally found a solution.

SinterCast's process it is claimed, can be installed quickly and relatively cheaply in the foundry process. Samples of molten iron are collected by a sampling probe containing twin thermo-couples. Data from the

probe is systematically conveyed to a computer-controlled analysis and additive-dispensing system determining very precisely the required volumes of additives. Each melt load can be precisely formulated before casting. The normal rate of foundry flow is barely affected by the process, according to SinterCast.

The CGI process - hardware, materials, flow-rate changes - adds 9 to 11 per cent to a casting's costs relative to grey iron. But this extra cost is calculated to be neutralised at a weight saving per block in the nine to

12 kilogrammes range. Savings above 20kg per casting are calculated to reduce the net cost of the finished unit by around 10 per cent, ignoring other benefits. All but the smallest engine block castings thus could be cost neutral or enjoy cost reductions.

For SinterCast, with its technology centre in Katrineholm, Sweden, but its headquarters in Twickenham on the outskirts of London, the past year has marked the start of transition from a long development path, begun in 1983, to the first commercial installa-

tions. Subsidiaries have been set up in the US, the Netherlands, Germany, Spain, Ireland and Mexico. Some seven years ago, when the technology breakthrough seemed close, the company's market value reached a peak of over \$K20m, only to slide to less than \$K400m within a few years as the harsh realities of intensive testing dampened investor fervour.

Although the share price is again rising, the commercial risks remain high until large-scale production can be shown to have begun in earnest.

Extra help is at hand

The Alabama-built Mercedes M-Class sports utility vehicle and BMW's 3-Series saloon ranges will be the first vehicles to become available with a new ITT Automotive-developed "automatic stability system", starting towards the end of this year.

The system utilises yaw, speed and traction sensors to determine where the vehicle is going, compared with where the driver appears to want it to go.

It helps control steering, handling, braking and acceleration to stabilise the car safely if the driver has entered a bend too enthusiastically or is otherwise on the point of losing control.

The system is claimed to be "a quantum leap in anti-lock braking and traction control technology" by Mr Tom Chambers, ITT Automotive vice-president in charge of brake and chassis systems for the \$8.7m turnover group.

Both General Motors and Robert Bosch are among companies known to be developing similar systems, however.

Mr Jim Gill, an ITT Automotive spokesman, meanwhile rejects suggestions that the technology marks a step towards taking control of a vehicle away from the driver.

The group, based at Auburn Hills, Michigan, has yet to announce its further intentions, but plans are in hand to take the technology a substantial step further, with its eventual integration into on-board satellite guidance systems.

Such systems use CD-Roms containing finely-detailed maps in conjunction with geo-stationary satellites to identify the vehicle's location continually to within a few yards.

Under the system envisaged by ITT Automotive, the combined satellite/stability technology will "read" the road ahead, anticipate bends, calculate their severity and thus allow the vehicle to proceed through the bends at speeds likely to preclude the driver getting into trouble in the first place.

"It will be yet another useful tool for the driver, not something that threatens to take over," ITT Automotive insists.

With "intelligent" cruise control, lane-keeping and emergency braking systems also on the horizon, however, the trend of the technology appears to leave drivers with less and less to do.

ITT Automotive is giving no indication of the price of the systems, which can be fitted only as original equipment. "That must be up to the car maker," says Mr Gill.

As with anti-lock braking systems, the technology will appear first at the luxury end of the market, but is expected to spread to mainstream volume cars as economies of scale are achieved.

The complexity of the technologies being introduced to cars is leading ITT to introduce driver training courses both in Europe and North America to teach its proper use.

Partners in safety

Cars with an array of advanced technologies developed in partnership by automotive components group LucasVarity and French electronics group Thomson-CSF Radars and Contre-Mesures are undergoing test cycles of 600-plus miles per day at speeds up to 124 mph, writes John Griffiths. They are a prelude to commercial production within the next few years.

The cars incorporate several separate technologies first developed in the European motor industry's col-

laborative research programme, Prometheus, and now grouped within the test cars as an "integrated driver support" (IDS) system.

Features include adaptive cruise control, which keeps the vehicle at a safe distance from the car in front; lane guard, which warns a driver if he or she is straying from a lane; lane support, which can automatically guide the car back to the correct lane; and collision avoidance, which can operate both brakes and steering to avoid a crash.

Lucas and Thomson are to show the grouped technologies to car makers this year, well aware that they are in a race for orders with other big European groups pursuing commercialisation of similar technologies.

Early forms of the technologies were cumbersome. However, miniaturisation, which has allowed video and radar sensors to be packaged within a driving mirror, and much faster microprocessors, are expected to accelerate introduction of the technology.

Saab calls for real crash details

An appeal for national governments to consider publishing real-life accident data, not just the results of mandatory crash tests, is being made by Swedish car maker Saab - half-owned by General Motors - as the company celebrates its 50th birthday, writes John Griffiths.

Mr Christer Nilsson, Saab Automobile's head of accident investigations, says the company has built up a database of more than 5,000 real accidents, including the assessment of personal

injuries and interviews with victims, as well as vehicle damage.

The database, he insists, is proving more useful to the company in developing crash-worthiness than mere compliance with EU and other standardised crash test procedures.

"I'm not saying we shouldn't be doing laboratory tests with dummies. They are useful for development testing, but the results should not be used to encourage people to say one car is safer than

another," says Mr Nilsson. Such data is published in Sweden itself, through Folksam, the country's largest insurer, and by two insurance institutes in the US.

The appeal comes as European New Car Assessment programme (Euro-Encap), comprising the Federation Internationale de l'Automobile, EU national motoring organisations and the UK department of transport, is preparing to publish its next series of crash tests, for medium-sized cars.

The Encap tests, launched this year with the declared intention of helping consumers make more informed decisions about the safety of the cars they buy, are conducted at 64 kilometres an hour, compared with the 56 kph requirement of the current "official" EU tests.

Publication of the first tests, on "superminis" earlier this year caused a furore in the motor industry when they concluded that protection to occupants was considerably less than indicated in "official" tests.

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Laboratory testing is important for development work - but the results should not be misinterpreted

Tokyo without tears

While the first satellite-based in-vehicle navigation systems are impressing European drivers able to afford the £1,300-plus that they cost, the advanced traffic monitoring infrastructure in urban Japan is about to allow "intelligent" route guidance to be elevated onto another plane.

A wide-ranging co-operative venture has begun to allow drivers - initially only in Mercedes - to skirt the notorious traffic jams in Japan's capital of 20m people by integrating route guidance with "real-time" traffic information.

The venture has as its partners Daimler-Benz, its Japanese Mercedes-Benz subsidiary, Systemhaus, Nippon Telegraph and Telephone, Tokyo's advanced traffic information system (Atis), and Tokyo police.

The venture, which is being operated by Daimler-Benz Interservice Telematic Japan, a company established earlier this year, utilises the network of 14,000 road sensors and TV cameras monitoring 900 intersections under the control of Tokyo police.

The data from this monitoring infrastructure is read by 119 computers then passed for processing by the new Intelligent Traffic Guidance System (ITGS), which passes on route recommendations drawn up on the basis of prevailing traffic conditions. The data is tailored to the position of individual vehicles and trans-

mitted via mobile phone technology. Although confined initially to Mercedes-Benz vehicles, the system will become available to other vehicle users later this year. Japanese motorists are by far the most advanced in terms of satellite-based route navigations, with more than 1m users already.

The technology combines software from Daimler-Benz's traffic research sector and Mercedes-Benz's route guidance system.

The system also calculates estimated time of arrival in current traffic conditions, and provides additional information such as weather forecasts, parking space availability in the city, news

bulletins and even Shinkansen (bullet train) timetables. With economic damage due to traffic jams in Tokyo currently estimated at around ¥8bn a day, user costs for the ITGS system of a one-off registration fee of ¥5,000 and a monthly fee of ¥3,000 appear small.

Mercedes-Benz's research division says that development and testing of the ITGS system has taken about 15 years. However, the absence in other big cities of such a highly-developed traffic monitoring infrastructure makes it likely that "the Tokyo system will be unique throughout the world for some time to come".

John Griffiths

John Griffiths

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Fleet management

Cross-border operations gather momentum

EU integration fuels a need for companies to source and develop fleets on a pan-European basis, writes John Griffiths

Whatever the immediate outcome of monetary union, the Social Chapter and other broad-issue EU negotiations, business is breaking down its own barriers across Europe to make the single market more accessible. One consequence is that the efficient operation of cross-border vehicle fleets – both cars and commercial vehicles – is moving further up the corporate agenda.

The propensity for companies operating solely within national borders to buy and manage their own fleets is still strong – despite often exaggerated claims about the penetration of contract hire, leasing and specialist fleet management services into this traditional fleet manager's domain.

But the complexities of cross-border fleet operations, ranging from legislative differences to the varying cultures and intricacies of after-sales support, are creating a natural opening for specialised leasing and fleet management

groups ready to undertake the extensive research needed to understand the constituent markets – and to obtain the necessary expertise to exploit them.

A rising out of that opportunity, a distinct trend is emerging: the forging of alliances between national groups using each other's detailed knowledge of individual markets to attack Europe as a whole.

The attractions of the market are self-evident. According to estimates by Lease Plan, part of the Europe-wide vehicle leasing operations of the Dutch ABN Amro banking group, Europe's company car population totals 17m, an ever-increasing proportion of which needs to operate trans-nationally.

Dial, Barclays Bank's fleet leasing subsidiary, is already starting to reap the rewards of its own venture into a pan-European leasing activity, Antio Leasing Europe (Ale).

Set up in 1994 as an initiative of

Dial's holding company, Ale is primarily a trading alliance between several European partners. Apart from Dial it includes Arma (the Netherlands and Belgium), Sixt Leasing (Germany, Switzerland and Austria), and Fleet Services (Ireland). Coverage of most of the rest of Europe is through Dial subsidiaries set up for the purpose in France, Italy, Spain and Portugal.

Mr John Lewis, executive director of Dial and Ale's founder, says the logic of such an approach to Europe as a region is compelling. "Individual markets differ widely and it makes good sense to tap each other's local market and product knowledge, as well as buying power."

ICL, the computer group, Royal Liver, the UK assurance company, and Imation, 3M's data storage and imaging systems subsidiary, are among the companies with which Ale has secured contracts, with back-up services such as maintenance and breakdown services available throughout the region, irrespective of the country in which the vehicle is actually applied. "Increasingly, multi-national companies want a one-stop service," says Mr Lewis.

The vehicle fleet leasing and contract hire sector has a reputation for being viciously competitive, and thus prone to overstate its own virtues. Nevertheless, the contention of some leading companies that their pan-European expertise is a worthwhile investment for internationalising businesses does appear to be paying off. GE Capital Fleet Services, for example – the US-owned group which bought one of the UK's bigger lease companies, Leasecontracts, 21 months ago – says the pan-European part of the business has built up annual turnover of \$200m from zero in under five years.

Mr Jonathan Burr, managing director, insists that the move into international markets by the big companies, whether through takeovers or alliances, is not for the insouciant glory of the industry's leading participants, simply so that they can increase market share.

He claims that being able to organise fleet operations on an international basis "really can save mega-bucks" for businesses needing to take advantage of them. "We would expect a pan-European deal to produce savings of between 10 and 17 per cent," he says.

GE, and others in the business, maintain that the pan-European leasing trend stems in part from the increasing sophistication being shown by businesses towards out-sourcing. "Initiatives on the fleet front are now often being taken, and progressed, by extremely high-level sourcing specialists who have already embarked successfully on these kinds of cross-frontier sourcing deals in other areas, such as information technology and travel," adds Mr Burr. Catering to the demands of such customers, however, requires substantial investment. GE says it is committed to investing some \$100m in IT systems and other resources over the next five years.

There is every sign that the developing pan-European vehicle fleets business will be as cut-throat as the jostling in national markets.

Also joining the Euro-alliance ranks is Swan National, the contract hire and leasing subsidiary of HSBC-owned Midland, one of the UK's principal clearing banks – initially with Dutch group TOP Lease, UCA Lease of France, a Credit Agricole subsidiary, and Maske, an independent group in Germany.

Collectively they claim to have con-

tracts for the finance, management and maintenance of more than 95,000 cars around Europe.

The alliance is a loose one, created under the banner of the European Fleet Funding and Management Initiative (EFFAM). There are no cross-equity stakes. The project chiefly involves the co-ordination of services to give customers a single contact point in any country through which to gain access to services and expertise in any or all of the EFFAM member countries.

"Already we have been in discussions with some companies and have tendered for their fleets, so we know the operational capability of EFFAM works," says Mr Wallace Stahl, Swan National's managing director. Leading groups in Denmark, Portugal, Austria, Italy and Switzerland are also earmarked for membership. In a project aimed at businesses whose needs for cross-frontier vehicle fleet operations are becoming increasingly urgent, one of EFFAM's first initiatives has been to commission a European fleet strategy management guide from academics at the UK's Henley Centre for Automotive Management.

Business leasing now growing Europe-wide

Financial packages offer viable alternative to buying company vehicles, reports John Griffiths

The company car, once mainly a UK phenomenon devised as a means of circumventing government-imposed pay freezes in the 1970s, is becoming entrenched throughout Europe. Excluding daily rentals, around one-third of all new cars are now likely to have been funded in some way by corporate cash, according to latest industry estimates.

Since 1994, the fleet sector has grown from 46 to 56 per cent of total new car sales in the UK. "In the other major European markets, fleet sales are less important but are nevertheless becoming a significant factor," according to Andersen Consulting research undertaken for a FT Management report.

Figures from Ecetra, the European vehicle rental and leasing association, show that well over 5m cars are now the subject of business leasing and contract hire deals in the 16 principal countries of western Europe. The largest such fleets are based in Germany.

As in France, Germany's leasing and contract hire sector is driven by national car manufacturers such as Volkswagen and Renault. However, estimates in an

Economist Intelligence Unit study** of Europe's new car market underline this reason why this region is attracting so much attention from the contract hire and leasing industry.

New leasing contracts are already at a minimum of 1.5m units a year and growing rapidly, according to the estimates.

That it is growing so fast, the EIU study concludes, is partly the function of highly imaginative financing programmes and support services dreamed up by the leasing industry, primarily in the UK and now being exported.

"These financial packages are spreading to all European countries, offering an alternative to some forms of purchase," it says. "Contract hire is the newest of the forms and has not been fully accepted in many countries. However it is also the fastest-growing."

Even though the contract hire and leasing sector in the UK appears to be approaching maturity, it is not surprising that even medium-sized UK-based leasing companies are resisting any temptation to set up in continental Europe, according to another study, undertaken by Research Associ-

ates for Swan National.

Mainly US-controlled multinationals such as Hertz, Avis and PHH are already too well entrenched for smaller independents to mount a significant challenge, the research concludes – "those companies which have aggressive plans for Europe are already multinationals".

It is in the UK, however, that the leasing industry may soon start learning about the limits to growth. Contract hire, where all maintenance and other services are normally included, has been the main engine of growth in the UK, reaching 1.06m units in 1994, or around one-third of the company car market.

By the year 2000, however, according to Research Associates estimates, contract hire will peak at around 1.44m units, representing some 50 per cent of the total business car market.

It is an industry in which margins are already under considerable pressure, with concerns about long-term profitability of the sector being aired ever more stridently.

* *Investing Strategies in the European Car Industry*, FT Automotive Publishing, Pearson Professional Ltd, Maple House, 149 Tottenham Court Rd, London W1P 9LL

** *The New Car Market in Europe*, Economist Intelligence Unit, 15 Regent St, London SW1Y 4LR



Royal Mail, one of the UK's largest vehicle fleets, is conducting trials of alternative gas fuels CNG and LPG in conjunction with BP and Ford Motor

'Clean' fuels slow off the mark

Governments are stepping up efforts to encourage companies to switch, reports Neil Wallis

Fleet managers have plenty of reasons to be sceptical when advocates of alternative transport fuels announce that a breakthrough for one or other of the "green" fuels is imminent.

Recent transport history is replete with false starts and failed promises, but evidence is mounting to suggest that it may be time to suspend disbelief.

Governments throughout the world are taking concerted steps to reduce pollution in cities and to meet agreed targets for reductions in carbon dioxide emissions. Simultaneously, clean fuel technology developments are being spurred in the US through a combination of mandatory limits on emissions and tax incentives.

In the UK, the new Labour government has come to power with a commitment to force the pace of development towards cleaner fuels. It inherits a programme set up by the Conservative government and run by the Energy Saving Trust (EST) to promote the use of alternative fuels.

EST's Powershift programme aims to transform the market by increasing awareness among fleet managers of the benefits of alternative fuels, and by improving the availability of refuelling infrastructure.

The programme includes projects to demonstrate the viability of vehicles running on liquefied petroleum gas (LPG) and compressed natural gas (CNG), and a Coventry-based scheme to assess the technical merits of electric cars. Both the gaseous fuels, according to their advocates, are becoming commercially attractive following cuts of 15 per cent and 25 per cent in fuel duties in the last two government budgets and an imminent reduction in vehicle excise duty for certain gas-powered trucks.

EST's transport programme manager, Mr Jonathan Murray, believes that the new UK government will cut gas fuel duties further and introduce new tax breaks. Meanwhile, the duties levied on the "traditional" road fuels – petrol

and diesel – are likely to continue to increase by at least 5 percentage points above the rate of inflation.

Converting a light duty vehicle to run on LPG costs roughly £2,000 and a heavy duty conversion around £9,000. LPG-dedicated vehicles are also available at a modest extra cost over diesel models. Renting a fleet fuelling facility costs up to £25,000 annually, though fuel suppliers may pay part or all of this cost.

Mr Henry Clayton, European auto LPG development manager for Shell Gas, says: "A further reduction in fuel duty would give a real boost to the gas vehicle industry. Operators running costs are almost at break-even now, but more help is needed, especially for bus operators who already get a large rebate on their fuel duty."

UK fleet managers considering switching their fleets to a gas fuel are constrained by the need for vehicles to return to a central location as, unlike in the Netherlands or Italy, public refuelling facilities are extremely limited.

LPG is the world's most widely used alternative fuel but, with about 1m vehicles operating globally, CNG is gaining converts. Adapting a vehicle to run on CNG costs slightly more than an LPG conversion, mainly because the fuel tank must be larger and stronger. CNG-dedicated vehicles are now available and offer performance and emissions advantages compared with conversions, but there is a price premium. CNG refuelling facilities are also more expensive to install, although this cost may be met by fuel suppliers.

The choice between CNG and LPG is likely to depend on the type of vehicle fleet and a number of local supply factors, as well as the availability of grants or other incentives for switching fuels. Mr Murray says that, at the moment, the economics look most attractive for light vehicle fleets converting to LPG and for large truck operators changing to CNG.

An important concern for fleet managers opting for

either of the gas fuels is that the resale price of gas vehicles will continue to be low until a larger market develops.

Mr Martin Hancock, marketing and development manager of Travel West Midlands which has bought 14 Volvo CNG buses, expects its operating cost per kilometre to be comparable with diesel models despite a duty rebate of about 25p per litre on diesel. The buses were purchased with support from the Energy Saving Trust, while British Gas paid for

the installation of refuelling facilities.

So far, apart from public transport operators, only a few private organisations in the UK have opted to try alternative vehicles. Body Shop and the main delivery contractors for Marks & Spencer, BOC Distribution, are exceptions, trialling CNG delivery vehicles in the London area.

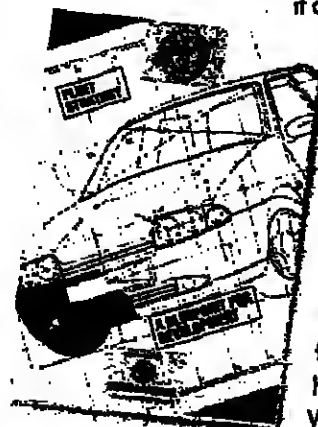
Aside from the potential financial gains, are there any other reasons for a company to change to alternative fuels?

Mr Bernard Barnett, vice-president of the advertising agency Young & Rubicam Europe, says that research indicates that there are few clear business benefits to a typical company in being seen to be "green", although it is a gesture of "good citizenship". Being an early switcher to a clean fuel could, however, offer an immediate PR boost: "There is certainly a publicity opportunity, and it would be positive news, positioning the company as responsible and forward-thinking."

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The tyre industry

Pressures on profits remain

Demand in developing countries looks rosy, but competition among manufacturers is likely to remain intense in these and existing markets, writes John Griffiths

The good times are rolling again in the world tyre industry - but only when measured against the severe buffeting it has received over the past decade. Profit margins are still very modest by the standards of many other industries, particularly in the case of original equipment suppliers to the world's vehicle makers.

Most, if not all, of the leading participants in the sector are pleased to have returned to clear profitability after five years of consolidation and restructuring.

There is also minor comfort in the prospect that the severe competitive pressures facing the industry should be mitigated by steady growth in demand for tyres as vehicle use increases in the emerging world.

Total demand, covering both original and replacement tyres, is projected by most industry estimates to grow by nearly 20 per cent per cent between now and 2005. However, according to forecasts from the Economist Intelligence Unit in a new study of the industry, only 8 per cent growth is forecast for the developed markets of western Europe and North America, compared with a rise of 36 per cent for the developing world.

Those forecasts promise a fierce battle for shares of this new business, with aggressive and rapidly expanding tyre companies indigenous to the Asia-Pacific region, for example, determined not to be left out. In these circumstances, a big question must be: can the industry's current profitability be sustained, and if so, for how long?

The biggest concern is capacity. There is still too much in developed regions such as Europe and North America, yet more has been

World car tyre sales

Forecast of original equipment passenger car tyre sales (million)

	1996	1997	1998	1999	2000	2005
Western Europe	96.1	96.5	98.0	98.1	98.2	99.0
Eastern Europe & Russia	9.4	9.9	10.6	11.2	11.7	16.4
North America	65.6	64.9	67.8	67.7	68.1	75.8
Latin America	7.8	8.2	8.2	8.8	9.1	11.0
Asia	68.8	71.7	73.3	74.4	75.9	99.2
Others	2.6	2.7	2.8	2.9	3.0	3.8
Total	217.9	224.3	227.7	229.5	235.0	295.2

Forecast of replacement passenger car tyre sales (million)

	1996	1997	1998	1999	2000	2005
Western Europe	127.2	129.0	130.3	131.5	132.7	133.8
Eastern Europe & Russia	33.9	34.7	35.6	36.5	37.4	47.1
North America	191.8	192.9	194.9	195.8	196.7	207.8
Latin America	29.3	29.3	30.3	31.3	32.3	39.4
Asia	116.4	120.0	122.2	124.4	126.6	157.2
Others	16.8	16.7	16.9	17.1	17.3	21.2
Total	515.4	524.6	530.3	536.6	543.0	657.5

Source: EIU

Actual figures

coming on stream in the developing world, including India and China, from which there will be an increasingly aggressive drive for export markets.

Despite the industry's declarations that never again would it allow itself to repeat, for a third time, the price wars, plant closures, takeovers and other rationalisations of the early 1990s, speculation is growing that another over-capacity crisis is waiting in the wings for the next cyclical downturn.

Soma industry analysts say that even the process of consolidation which has left more than 80 per cent of the world's tyre production in the control of just 10 large manufacturers may still have some way to run - a viewpoint given some substance when Cooper Tyre, of the US, bought the small but well-known Avon Tyres, of the UK, this year.

Under these analysts' scenario, the industry's "Big Three" - Bridgestone, Japan's and the world's biggest tyre maker measured by value of sales, France's second-

placed Michelin, and Goodyear Tyre and Rubber - already have a large size advantage, and hence economies of scale, over the next three companies - Continental (Germany), Pirelli (Italy), and Sumitomo (Japan). The top three companies are each at least twice as big as their counterparts in the second tier.

Certainly, the big three have performed well financially at the operating level, although the ongoing costs of restructuring and other exceptional losses have continued to hit bottom lines.

Bridgestone, helped by the depreciation of the yen, last year saw its export sales rise 30 per cent, lifting total sales by 16 per cent to ¥1,958bn. Net profits jumped by 29.9 per cent to ¥70bn. Goodyear reported 1996 earnings of \$674.7m, up from \$611m in 1995, although net profits fell after extraordinary charges relating to its oil pipeline. Tyre sales rose by 7.2 per cent. Michelin's net earnings last year rose to FF2.9bn from FF2.8bn, despite more exceptional costs than FF190m.

Subjecting the second-tier companies to a pincer-movement of pressures are even smaller, yet highly focused, companies finding adequate returns in the business by concentrating exclusively on niche markets, or confining their activities to specific regions.

Additionally, there are rapidly-expanding companies in South Korea and other Asia-Pacific countries. Kumho, of South Korea, is already ranked tenth in the world with sales of well over \$1.2bn. Its national rival, Hankook, is one place down the ladder but says it is determined to overtake Sumitomo into fifth spot within a few years.

The second-tier players, the EIU study argues, "have a world presence but typically they are significant players in only two or three regions and they do not dominate or lead in any region. In this situation it is difficult to earn the profit margins enjoyed by the industry leaders."

Company accounts for 1996, when recovery from recession was gathering

momentum, supported the contention: operating margin for the big three averaged 7.5 per cent; the average for Conti, Pirelli and Sumitomo was 4.7.

Yet the second-tier companies can point to a faster recovery rate than their bigger rivals, and both Pirelli and Continental maintain that they are doing well by a strict approach to controlling costs and targeting, in particular, high-performance and other premium tyre niches.

Last year, despite the stronger lira leading to Pirelli's tyre sales falling by 4.6 per cent, operating profits rose by 8.9 per cent. Net profits advanced 51 per cent to L337bn, well above market forecasts. Mr Marco Tronchetti Provera, Pirelli's chairman since an abortive bid to take over Continental plunged Pirelli into losses five years ago, says he expects Pirelli to perform "positively" again this year.

Continental last year saw profits before tax and extraordinary items rise 88 per cent to DM328m, although this was reduced to a 24 per cent rise at the net level because of ongoing restructuring costs. The company, as well as closing some plants in order to concentrate manufacturing, has made some initially expensive moves to escape some of Germany's high costs by transferring production of non-premium tyres to countries such as the Czech Republic and Portugal.

Sumitomo, Japan's third-largest tyre maker and which controls Dunlop in Europe, saw its tyre sales rise by 6.1 per cent, helped by recovery in the Japanese car industry, while full-year consolidated profits rose by 29 per cent. Further profits increases are forecast for this year.

Sumitomo and Goodyear this year have shown that the case for maintaining flexibility of approach both to markets and production is a strong one. Currently they are putting in place one of the more significant joint ventures of recent years, a production and market sharing agreement under which Goodyear will produce and sell Dunlop-branded tyres in the US and Sumitomo will produce and sell tyres for Goodyear in Japan. The agreement could lead to other collaboration with Sumitomo, according to Goodyear.

The proclaimed rationale for the deal is that by better utilising the manufacturing assets of each company, no more capacity is created and each company has better access to desired markets without investment or cyclical risk.

* *The World Tyre Industry: A New Perspective to 2005.* The Economist Intelligence Unit, 15 Regent Street, London, SW1V 4LR. £35/\$95



Engineers can make fine-tuning the performance of tyres almost as easy as calling up a radio station. Tyres can be 'tuned' to meet the unique ride and handling characteristics of a car by making minor changes in its internal components of altering its tread pattern. Photo: Goodyear

Asians start to put squeeze on Europe

Low-cost plants in the old east bloc area may be a mainstay defence, writes John Griffiths

The world tyre market is far from homogeneous. Some regions, such as Latin America and Asia-Pacific, are enjoying rapid growth; others, such as western Europe and North America, are mature and offer no prospect of substantive increases in sales in either the original equipment or replacement sectors.

Europe, however, is changing as the countries of central and eastern Europe increasingly become drawn into the wider continental economy.

Car production and sales are rising rapidly in countries such as Poland and the Czech Republic, creating new markets for both original equipment and replacement tyres.

Low labour costs and good engineering traditions in these countries have also encouraged another strategic shift in the tyre industry - the reduction of capacity in high-cost regions of western Europe, particularly Germany, and the takeover and modernisation of tyre plants in the east.

Continental, the world's fourth-largest tyre maker, has moved more than a quarter of its output to such lower cost plants, notably in the Czech Republic.

Among its five acquisitions during the past year, Goodyear has acquired TC Debiha in Poland and a majority stake in Sava, the Slovenian tyre maker. Michelin has acquired plants in Poland and Hungary.

Most analysts expect more tyre plants to be opened in the old eastern bloc for some time to come - but offset always by capacity reductions in the west.

According to industry estimates, demand for original equipment tyres in eastern Europe and Russia will almost double, from just over 9m units last year to approaching 17m within the next decade, with the replacement market jumping by around one-third to 43m units.

The truck tyre sector is also expected to enjoy rapid growth in the region, the original equipment and replacement sectors combined rising from around 29m units last year to more than 40m by 2005.

Much of the eastern region's tyre output will be directed to west European markets as part of efforts to fend off increasingly determined efforts by South Korean and other Asia-Pacific producers to penetrate both Europe's OE and replacement sectors.

The absorption process is expected to continue as the industry leaders acquire further second and third-tier brands with which to compete at all price levels in the market place. Such a strategy is viewed as necessary if the image of the "premium" brand names such as Michelin, Pirelli and Goodyear is to be preserved.

Also driving such acquisitions are the well-developed market niches which some smaller companies have exploited with skill. Avon Tyres, for example, the small UK producer, has prestigious contracts as a supplier to Rolls-Royce and Bentley cars. It is a measure of the competitive squeeze that even Avon, though still making profits, has had to succumb - and is now part of the much larger US company, Cooper Tyre and Rubber.

But it is not all bad news for western Europe. The capacity being lost has tended to have particular problems, such as poor location or a need for heavy reinvestment. Michelin, Pirelli, Goodyear and others are continuing to invest heavily to make their key west European facilities more efficient and to utilise them more effectively.

Inevitably, when such competitive pressures are put on the big manufacturers, the smaller ones will continue to be squeezed out, or at least lose their independence. As Mr Brian Smith, managing director of Continental's UK operations points out, Continental itself now controls nearly a dozen brands, including Semperit and Barum.

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That it should wish to do so is understandable. Growth of the world replacement tyre market has far surpassed original equipment supplies, rising by 24m units compared with the OE sector's 90m increase during the past 25 years. Profit margins in this sector are also substantially higher.

While making no overt claims to wishing to re-establish itself as the world's biggest tyre maker, Goodyear is back on the acquisition trail, with five purchases totalling \$430m in little over a year in Europe, the Philippines and South Africa.

Yet more acquisitions are on the cards, while a production-sharing agreement with Sumitomo in the US and Japan opens up many more possibilities. Mr Gibara refuses to elaborate on what these might involve.

JP Morgan's Mr Bradley, however, suggests it "may mark the beginning of the next round of global consolidation." If it does, he maintains, "that would be

with the loss of 600 jobs and cut back output sharply at its Hanover plant in Germany and its Semperit facility in Austria. Goodyear has closed a substantial facility in Greece.

But it is not all bad news for western Europe. The capacity being lost has tended to have particular problems, such as poor location or a need for heavy reinvestment. Michelin, Pirelli, Goodyear and others are continuing to invest heavily to make their key west European facilities more efficient and to utilise them more effectively.

Inevitably, when such competitive pressures are put on the big manufacturers, the smaller ones will continue to be squeezed out, or at least lose their independence. As Mr Brian Smith, managing director of Continental's UK operations points out, Continental itself now controls nearly a dozen brands, including Semperit and Barum.

The absorption process is expected to continue as the industry leaders acquire further second and third-tier brands with which to compete at all price levels in the market place. Such a strategy is viewed as necessary if the image of the "premium" brand names such as Michelin, Pirelli and Goodyear is to be preserved.


Also driving such acquisitions are the well-developed market niches which some smaller companies have exploited with skill. Avon Tyres, for example, the small UK producer, has prestigious contracts as a supplier to Rolls-Royce and Bentley cars. It is a measure of the competitive squeeze that even Avon, though still making profits, has had to succumb - and is now part of the much larger US company, Cooper Tyre and Rubber.

That it should wish to do so is understandable. Growth of the world replacement tyre market has far surpassed original equipment supplies, rising by 24m units compared with the OE sector's 90m increase during the past 25 years. Profit margins in this sector are also substantially higher.

While making no overt claims to wishing to re-establish itself as the world's biggest tyre maker, Goodyear is back on the acquisition trail, with five purchases totalling \$430m in little over a year in Europe, the Philippines and South Africa.

Yet more acquisitions are on the cards, while a production-sharing agreement with Sumitomo in the US and Japan opens up many more possibilities. Mr Gibara refuses to elaborate on what these might involve.

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Optimism abounds in spite of US price wars

Manufacturers have withstood competition and plan expansion, writes John Griffiths

Bridgestone of Japan, already the world's biggest tyre maker, has set itself the goal of increasing its global market share from around 18 per cent to 30 per cent by the end of the decade. The reverberations are being felt throughout the markets in which it is strongest, not least North America.

It has increased its capacity by 80 per cent since 1990 when it took over Firestone, one of the best-known US brands. Capacity is scheduled to have been raised by a further 10 to 12 per cent by the end of this year.

It should come as no surprise, therefore, that North America is being swept by price wars. After being flat for more than a decade, prices fell by 4 per cent last year, according to Mr David Bradley, a JP Morgan analyst.

In the circumstances, its rivals - notably Goodyear, the sole surviving US-owned member of the world "big three" - have stood up to the competition remarkably well, financially.

Goodyear has just reported its 24th consecutive rise in quarterly operating income, with its operating profit margin rising.

"In a tough year Goodyear has done all the right things in our view," says Mr Bradley. However, he believes the US group will find the coming 12 months at least as tough as tougher competition weakens overseas earnings.

Mr Samir Gibara, who took over as chairman of Goodyear last year, professes himself undismayed. Goodyear, he maintains, is in good shape to weather the storms and has its strategy firmly in place.

"One major objective is to hold a number one or number two position in all of the industries and each one of the markets in which we participate, whether in tyres, engineered products or rubber chemicals," he says.

"The other is to be the lowest cost producer of the three global players."

The company intends to build on a strategy, started in the early 1990s in Europe,

to improve the business mix by putting particular focus on the large, more stable and profitable replacement tyre market.

That it should wish to do so is understandable. Growth of the world replacement tyre market has far surpassed original equipment supplies, rising by 24m units compared with the OE sector's 90m increase during the past 25 years. Profit margins in this sector are also substantially higher.

While making no overt claims to wishing to re-establish itself as the world's biggest tyre maker, Goodyear is back on the acquisition trail, with five purchases totalling \$430m in little over a year in Europe, the Philippines and South Africa.

Yet more acquisitions are on the cards, while a production-sharing agreement with Sumitomo in the US and Japan opens up many more possibilities.

Mr Gibara refuses to elaborate on what these might involve.

JP Morgan's Mr Bradley, however, suggests it "may mark the beginning of the next round of global consolidation." If it does, he maintains, "that would be

good for tyre stock prices and eventually good for earnings as well."

Fresh victims of consolidation, the South Korean industry insists, will not be found in Seoul's backyard. Indeed, Kumho and Hankook, the country's biggest producers, have clear ambitions to displace some of the industry's oldest members of the world's "top six". Kumho is already the world's tenth largest tyre maker and Hankook is just one place behind.

Hankook has declared its intention to become the world's fifth biggest manufacturer, in just the same way as South Korean companies Hyundai and Daewoo have declared that, within the next decade, they will be among the world's top 10 car makers.

Some analysts say they believe the expansion of both tyre makers is too fast and that they will soon run into trouble. If they do not, smaller Japanese manufacturers, such as Yokohama and Toyo - and perhaps even Sumitomo - may find themselves waging a fierce battle for survival, even allowing for the rapid growth of vehicle markets in ASEAN and other Asia-Pacific states.

The tyre industry

Partners grip demanding problems

Pirelli developed a tyre for the XK8 in parallel with Jaguar's work, writes John Griffiths

Porsche did it with Bridgestone; Jaguar has now done it with Pirelli. When the demands made of a tyre are at the outer edges of the performance envelope, the tyre which works best is one developed in parallel with the car - optimising grip, handling in wet conditions, ride, noise and other characteristics - as a partnership engineering venture.

During the past few years, computer-aided design, simultaneous engineering, finite element analysis and even computational fluid dynamics have facilitated this process, allowing a tyre to be computer-modelled to predict its principal performance characteristics before the first one has been moulded.

The tyre development for the XK8, Jaguar's most important car for two decades, provides a textbook case of the vehicle/tyre development partnership, which is increasingly likely to become the industry norm as performance criteria - even for fairly modest cars - become more demanding.

Pirelli was well placed for the XK8 project even before it was set in train by Jaguar. It already had 80 per cent of Jaguar's tyre business and for the XK8 Jaguar decided to make the development and supply relationship exclusive.

The XK8 was given the go-ahead by Jaguar, and its parent company Ford, in January 1994. The tyre requirement to meet Jaguar's particular characteristics of good roadholding, low noise and refinement were defined that September. First tests on an early prototype started two months later. During 1996, the chassis and car underwent rapid

development, with the basis of the "ideal" tyre evolving to become a version of Pirelli's "Flagship" P Zero high-performance range.

Jaguar set an existing car/tyre combination as a datum: an XJR model was fitted with P Zeros. The tyre developed for XK8 had to provide equal dry and wet roadholding, improved high-speed and directional stability, equivalent ride comfort, improved refinement, reduced noise levels; improved on-centre "feel" (less steering vagueness in a straight line), and reduced "flat spotting" (the result of tyres and rubber taking a semi-permanent set when parked for a long time, leading to steering wobble until the deformation is eliminated by rotation and heat). Last, but not least, tread life had to be maintained.

By November 1996, the deadline for first XK8 production, was set - June 3 1996, just 30 months after the car had been conceived. The tyre would carry the P Zero name and tread pattern, but sizes, materials, structures and manufacturing processes would differ from any earlier UK-produced P Zeros.

"They needed major process revisions," recalls Mr Barry Allbert, technical director of Pirelli's Carlisle-based R&D operations and thus in overall charge of Pirelli's XK8 project. "We had to install some pretty hefty new machinery and equipment."

Simultaneous engineering allowed the final tyre specification to be developed, and the first prototype tyres built in the three months leading up to the car's unveiling at last year's Geneva motor show.

In April, with Jaguar's and Pirelli's development teams



Perfect partners: The Pirelli/Jaguar partnership could become the norm within the motor industry

working in parallel, the final tyre specification was signed off, and production at Carlisle got under way in May.

The core part of the tyre development and manufacturing process had taken just seven months. "It pushed us to the limit," says Mr Allbert.

He expects, however, little relief in the future. "Times to market are shortening and we are almost continually compressing the time scales," he says. "The only way we can seriously achieve time compression is to run everything in parallel, not sequentially - the classic simultaneous engineering."

Currently, a dedicated tyre development time of two to three years is the norm; in some cases involving modestly performing cars - like Ford's Ka hatchback - existing tyres can still be used (Ka uses the closely-related

Ford Fiesta's). "But where you're talking about seriously high-performance vehicles there is a tremendous amount of work to be shared between car and tyre maker to make sure that suspension, braking systems, shock absorbers and tyres combine to work in harmony," says Mr Allbert.

"In Jaguar's case, we are almost an integrated part of their vehicle development team. We have a defined Jaguar project team, comprising testing, materials and process development and research, plus quality assurance. The team works closely with all functional elements in the relevant Jaguar development teams, and development of the overall package becomes a continuous flow of activity."

"Taking that approach allows a much greater degree of co-adaptation of

the technology of the tyre to suspension, dampers and brakes; between us we can achieve the optimum for all the components making up that particular sub-assembly."

Pirelli uses Japan's Taguchi method of ranking by importance individual factors determining the characteristics of the finished tyre, in order to cut down on the huge variety of experimental tyres which might otherwise have to be built to take account of varying compounds, belt angles, carcass components and other ingredients. From then on, things can become frantic. For a new tyre like the XK8's, prototype moulds and process equipment have to be created, including the production of tooling - such as dies for rubber extrusions - specific to the tyre's construction and size.

Fortunately for the industry, sophisticated software allows computers to take over much of the work. But will the day come when a carmaker manufacturer can simply transfer a "virtual" model of a planned new car from its database to the tyre manufacturer's so the latter's software can design the optimum tyre? Most technology experts in the tyre industry maintain that this is highly unlikely - at least until well into the next century.

Even allowing for all the technology, says Mr Allbert, there is no substitute for the human factor. "The tyre industry has not yet found a way of predicting vehicle characteristics to a level which is sophisticated enough to be sure that the final result is the optimum that can be achieved."

"In the end, when it comes to the last degree of optimisation, it's all subjective."

Michelin holds on to secrets

US plant appears to promise big savings, says John Griffiths

Groupe Michelin, the world's second-biggest tyre maker which has become a by-word for secrecy, has opened its first CSM car tyre manufacturing plant in North America.

In doing so, it has brought to a new pitch the interest and speculation by rival manufacturers over precisely how to respond to the production processes, whose three enigmatic letters appear to mark a step change in the economics of tyre manufacturing.

Like its counterparts already established in Europe, the US plant, at Greenville, South Carolina, is indicated to be capable of making tyres using only a fraction - as little as 10 per cent - of the factory space and only two-thirds as much energy as conventional processes, according to Michelin insiders.

The new plant, part of a \$500m expansion programme for Michelin's tyre manufacturing activities in South Carolina, eliminates component manufacturing and assembly processes and should result in a reduction of nearly 30 per cent in per unit production time.

Michelin has already brought two similar plants on stream in France and a third in Sweden, projecting that more than one-third of its total tyre output will use the process by the end of the decade.

While Michelin itself has refused to provide any insights into the detailed technology, investigative work by the editor of *European Rubber Journal*, Mr David Shaw, has pieced

together much of the process.

The construction of the tyre is very different from conventional units, he concludes, eliminating from the process expensive and time-consuming equipment and processes such as calendars, large extruders and mixers.

The flexibility of the CSM plants arises from the large number of individual tyre building machines which can be installed in a small space and for a given capital outlay, according to Mr Smith. Each building machine is flexible only in that several types of tread construction can be produced on each building machine, but not varied sizes. Each building machine is of fixed width and diameter.

Conventional build processes make extensive use of pre-manufactured components in the building process. However, the CSM process uses continuous mixing and direct extrusion on to the building machine.

The process has been hailed as revolutionary by some industry analysts - Mr Stephen Reithman, of Merrill Lynch, has described it as the equivalent of a "neutron bomb" in terms of its potential to reduce the size of workforce needed to produce tyres.

Michelin's rivals, however, profess to be not unduly perturbed by Michelin's developments. Continental, Goodyear and Pirelli, for example, claim to be making rapid progress on flexible production methods to suit their own strategies.

Gel process may sweep away old practices

John Griffiths hears of a technique that has the potential to save millions of man-hours in the tyre-fitting industry

Each year, the world's vehicle makers produce more than 40m cars, vans, trucks and buses. Collectively, they require more than 250m wheels and tyres. At least another 500m replacement tyres are fitted.

At even a few minutes per unit, that means millions of hours are spent annually mounting, spinning up, balancing and taking off wheels. Add to that the fact that several billion small lead weights are used universally for balancing and that a few million of these will fall off during use, doing the environment no good at all.

The process is time-honoured... and self-evidently inefficient. Professor Norbert Seitz puts forward another scenario.

The inside of the tyre, whether original equipment for a new car or being fitted as a replacement, is spread

with a gel as it is mounted on the wheel and inflated. The first time the tyre is rotated towards working speed, the gel redistributes itself under the combined action of centrifugal forces and vibrational stresses caused by minor manufacturing variations of tyre or wheel, or both. In effect, this makes the tyre and wheel combination self-balancing.

The company that has created the gel and the process unveiled it at Bologna's motor trade and industry show last month, claiming a "quantum leap" in terms of both cost-saving and the precision of wheel/tyre balancing.

Premature tyre wear caused by out-of-balance oscillations is also reduced, providing a bonus for consumers (but not necessarily tyre makers), according to Prof Seitz, the Munich University-based consultant con-

sultant to Autobalance, which has its headquarters in London.

Because the distribution of the gel adapts to change over time there is no need to rebalance the wheel/tyre combination as the tyre tread wears, Autobalance maintains.

Mr Bertil Carnehammar, Autobalance's chairman and head of marketing, says one of the biggest development problems has been to create a gel capable of keeping its characteristics stable over a broad temperature range - between -40°C and +120°C. Another has been establishing that the gel does not react adversely, over time, with the inner tyre wall.

The gel, 250 to 350 grammes of which are used for average sizes of tyre, typically coats to a depth of 3 or 4mm.

Autobalance claims to have arrived at a patented

formula which is capable of being manufactured in volume and forms a part of a complete technology without which "none of the big [auto] companies is interested", says Mr Carnehammar. Work is continuing on the system, which must conform with the car makers' general insistence on pre-balanced wheel/tyre units being delivered to the assembly line.

Leaving aside the replacement market, which raises more complex issues such as distribution, the main market for Autobalance therefore becomes the tyre makers themselves, who typically mate their own tyres to wheels and balance them for delivery direct to the assembly lines.

Autobalance, owned mainly by Swedish investors, says it has spent nine years and more than \$50m on developing the system.

Electric vehicles make slow progress

Continued from Page 1

market from next year. Under a mandate drawn up several years ago, Carb had required 2 per cent of cars sold in California next year by the leading vehicle producers to be EVs, rising to 10 per cent in the year 2003.

The main technical hurdles still to be overcome in terms of consumer acceptance have led to the 1998 requirement being abandoned. However, Carb has

left in place the "10 per cent by 2003" requirement and is still threatening carmakers with severe penalties in the case of non-compliance.

J.D. Power interviewed 400 people by telephone in southern California earlier this year. It found that the 77 per cent of respondents who would not consider battery-powered cars were concerned mainly with whether such completely new vehicles were reliable, the availability of adequate

charging stations, and the possible complexities of refuelling.

Since then, however, the difficulties some EV users have been encountering in respect of inadequate range for the Los Angeles basin's vast urban sprawl have been receiving considerable publicity - likely further to dampen Californians' enthusiasm for the vehicles.

GM launched the EV1 last December in California and Arizona. It would have a retail price of \$34,000, except that GM decided the vehicle would be lease-only.

The EV1 this year is being joined by models from Honda, Toyota and Ford, among others, some with more advanced batteries - such as Honda's nickel-metal hydride units - claimed to provide substantially more range than GM's EV1.

The EV1 currently is powered by lead-acid batteries. GM has reduced the monthly lease payment on EV1 to \$399 from \$500, claim-

ing that talks with 800 potential customers had identified leasing cost as the biggest deterrent. Although the lease payment includes equipment for recharging batteries at home, GM is also expanding its network of charging stations in an attempt to allay potential lessees' fears.

Following the leasing charge cut, Carb, together with legislators in some northern US states which are planning to introduce similar clean-air rules to California's, are to monitor closely over the coming months the extent to which consumer resistance to GM's EV1 might run deeper than price. They are also anxious to establish whether the claims of newer battery cars into the marketplace, such as Honda's EV Plus hatchback - just entering the market also on a lease-only basis - to greater range will prove justified and thus further break down consumer resistance.

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Focus: Iberia's motor industry

Tax initiative may boost home sales

Spain is a leading producer, but its people hang on to elderly cars, writes Tom Burns

Spain is in the odd position of being the third-ranked auto producer in the European Union, after Germany and France, and having a higher proportion of elderly cars than any other EU member apart from Greece. At least 5m of the 15m cars on Spanish roads are more than 10 years old. Moreover, there are only some 300 cars per 1,000 inhabitants in Spain. Analysts estimate that a period of sustained, non-inflationary growth such as Spain appears to be now entering should, in a comparatively short period, lift car ownership to 400 per 1,000 inhabitants.

These statistics point to the strength of the sector in Spain. At a time when other European producers worry about the industry's over-capacity, Spanish manufacturers take comfort in the growth potential of the domestic market.

Identifying the home consumer cushion has become a vital exercise for the manufacturers because the domestic industry is very strongly weighted towards foreign sales. Last year, 1.5m of the 1.5m cars manufactured in Spain were exported, and 90 per cent of the export total was sold within the EU.

The sector is especially exposed to slumps in France, which accounts for more than 30 per cent of its exports. The current depression of the French car buying market has particularly affected manufacturers in Spain; production in the first

three months of this year was down by 6 per cent on last year to 493,913 units, and exports were 9.8 per cent lower at 373,601 units.

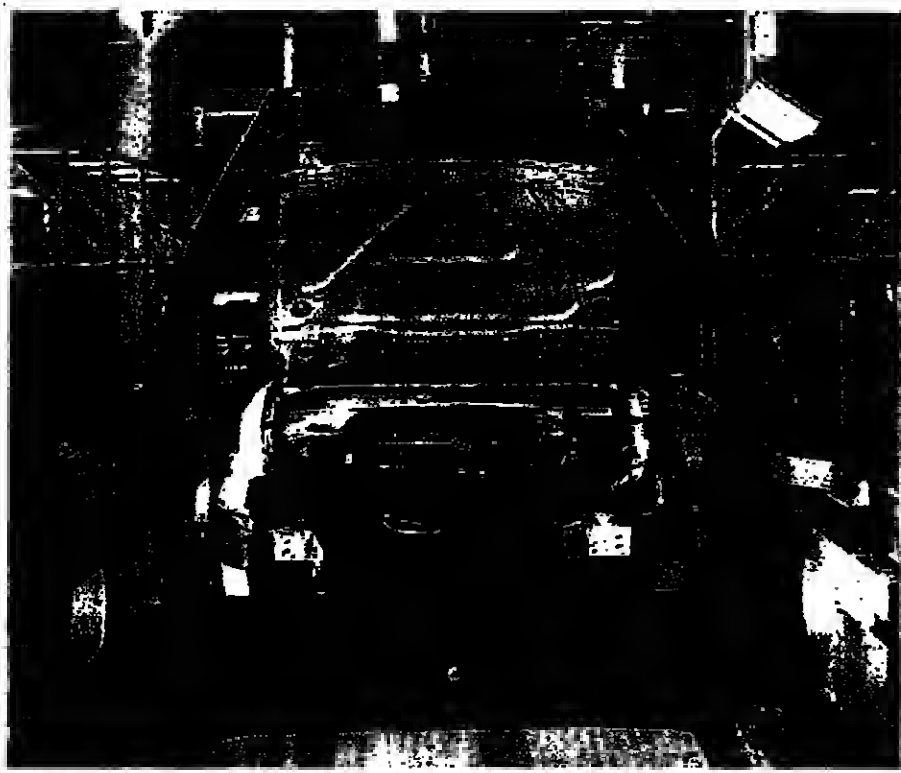
The 1996 figures for the industry were more encouraging because, while production and exports numbers remained flat, registrations in Spain increased by 9.2 per cent to just over 911,000. This total should be compared to the 1.1m cars registered in 1995 - the peak year for domestic car sales - and to the industry's belief that annual domestic registration should be in the region of 1.2m.

Industry thinking revolves around stimulating domestic demand. In this sense a recent government initiative which offers tax rebates for the replacement of cars that are more than 10 years old could hold out further hope for the manufacturers.

Modelled on a similar initiative in Italy, and unlike a 1994 incentive that limited the tax cut to a 12-month period, the government's Prever plan offers Ptas90,000 for replacement purchases on a permanent basis.

The rebate is roughly the equivalent to the 7 per cent sales tax levied on small cars and it is therefore aimed very clearly at spurring a domestic industry that is overwhelmingly based on production of small vehicles.

Anfac, the umbrella association for Spain's auto producers, is somewhat cautious about the impact of Prever, and forecasts that



Seat's production line: Manufacturers would like to see more staying on Spanish roads

the plan's incentives will prompt only a modest growth of some 60,000 additional units in the second half of this year. Analysts are more upbeat; shares in Renault, the French group which like other multinationals has concentrated production of small cars in Spain, increased sharply on the Paris exchange when the Prever plan was unveiled.

As it awaits demand to pick up both at home and abroad, Spain's auto sector reassures itself with what Anfac claims are the key strengths of the domestic industry: modern factories; the depth and efficiency of the domestic components industry; and the competitive unit-labour costs of Spain's auto-workers.

Such points are used to calm fears that the plants in Spain operated by the multinational car groups could be the object of downsizing or even re-location.

The most modern domestic plant is the one opened at Martorell, outside Barcelona, by Seat, Volkswagen's Spanish subsidiary. Martorell will probably be the last new

major auto manufacturing facility to be built in western Europe, and it has already undergone renovation that has doubled productivity.

Seat, once state-owned and still the biggest producer for the home market, claims that it has put its financial troubles of the early 1990s behind it. With its profit and loss account back in the black, VW's Spanish unit plans to invest Ptas120bn in new models by 2000.

Substantially increased efficiency claims are also made by the trio of French producers - Citroën, Peugeot and Renault - which are all long-established in Spain. GM's Opel, which, in the mid-1990s, was the last of the multinational producers to set up in Spain, last year manufactured more units at its plant near Zaragoza - 491,700, of which 437,705 were exported - than any other auto group in the country.

Restructuring programmes conducted by the domestic industry have focused, as elsewhere in Europe, on building up local component manufacturers. The para-

Success brings its own worries

State incentives help to make Portugal an attractive proposition, says Peter Wise

Car assembly and component manufacture has gained considerable weight in the Portuguese economy over the past decade, modernising industry and creating jobs but also raising concerns over the country's dependence on a sector that is highly sensitive to economic cycles.

The automobile sector accounts for more than 15 per cent of Portugal's total exports and 18 per cent of its exports to the rest of Europe. In 10 years, the annual turnover has grown from \$250m to \$3.2bn and the number of cars assembled has risen from 85,000 in 1985 to more than 160,000 in 1996.

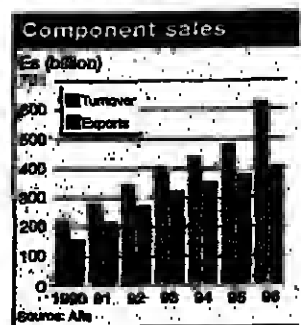
Leading manufacturers, including Ford, Volkswagen, Opel, Mitsubishi, Citroën and Renault, have invested strongly in assembly and component plants in Portugal, creating close to 7,000 jobs. Parts production involves engines, transmission systems, brakes, suspension systems, body work, interiors, tyres, radios and other electric and electronic components.

By far the biggest plant, and the largest foreign investment in Portugal to date, is AutoEuropa. The \$2.54bn joint venture by Ford and Volkswagen, inaugurated in April 1996, produces the Ford Galaxy and the Volkswagen Sharan, multipurpose vehicles (MPVs) that aim to combine the comfort of a passenger car with the size of a minibus.

AutoEuropa's plant at Palmela, south of Lisbon, has created 3,600 jobs in the factory itself and related component manufacturers, more than half the total employment in Portugal's auto-

mobile sector. The plant was designed with a capacity of 180,000 vehicles a year, and at current levels of production - almost 120,000 vehicles in 1996 - alone accounts for about 2.7 per cent of Portugal's annual gross domestic product.

An important positive effect of automobile sector investment has been the upgrading of Portuguese industry in terms of technological capacity and work force skills. In AutoEuropa's body shop, for example, 173 robots apply 60 per cent of 4,800 welding spots.



Big automobile investors have been attracted to Portugal by a high level of government incentives, but also by the learning capacity and motivation of workers and their low strike record. "Portugal proved to be an excellent choice for locating our AutoEuropa assembly plant," says Mr Albert Caspers, chairman of Ford Europe. "The national and local governments worked well with us in the development phases, and the quality and enthusiasm of the workforce have been outstanding."

Before the launch of AutoEuropa, Ford Automotive Components Division

opened a plant in Palmela in 1993, originally intended to produce about 3,000 car stereo systems a day. The factory now exports more than 6,500 systems a day as well as dedicating 40 per cent of production to dashboard consoles, airbag modules and other components, using a technologically advanced production system requires a high level of technical skill from its 1,600 employees.

Citroën Lusitana, the Portuguese subsidiary of the French carmaker, has invested E\$2bn to double production at its Mangualde plant in northern Portugal to 120 Saxo cars a day, doubling its workforce to 661 employees. The plant now plans to export 50 per cent of production that was previously all sold in Portugal. Sales reached about E\$14.5bn in 1996, E\$10bn more than when Citroën began assembling cars in Portugal in 1984. Citroën's production line in Portugal has so far turned out 22 different models, an average of one new model a year.

A negative dimension to the strong growth of the automobile industry in Portugal is the economy's increasing reliance on the sector for jobs and growth. The risk was highlighted by the French and Spanish truck drivers' road and border blockades in March that forced temporary shutdowns or production cutbacks at all Portugal's main car plants with costly consequences for company balance sheets and Portuguese export growth.

The Socialist government has also stepped in to prevent the threatened closure of Renault's car assembly plant in Portugal that would have caused the loss of 760 jobs. The government has acquired 70 per cent of Renault's holding in the plant, which it plans to modernise and sell to another international car manufacturer.

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